

## CURRICULUM VITAE of DAN M. FRANGOPOL

The Fazlur Rahman Khan Endowed Chair of Structural Engineering and Architecture  
Professor of Civil Engineering, Lehigh University  
Emeritus Professor, University of Colorado at Boulder

### 1. PERSONAL INFORMATION

Born, July 28, 1946: Married, two children; United States Citizen  
Languages: English, French, and Romanian  
Office Address: Center for Advanced Technology for Large Structural Systems (ATLSS Center), Lehigh University,  
117 ATLSS Drive, Bethlehem, PA 18015-4729, USA  
Office phone: 610-758-6103  
E-mail: [dan.frangopol@lehigh.edu](mailto:dan.frangopol@lehigh.edu) or [dmf206@lehigh.edu](mailto:dmf206@lehigh.edu)  
URL Lehigh University: [www.lehigh.edu/~dmf206](http://www.lehigh.edu/~dmf206)  
URL P.C. Rossin College of Engineering and Applied Science: <https://engineering.lehigh.edu/cee/faculty/749>  
URL Wikipedia: [https://en.wikipedia.org/wiki/Dan\\_M.\\_Frangopol](https://en.wikipedia.org/wiki/Dan_M._Frangopol)  
URL University of Colorado at Boulder: <https://www.colorado.edu/ceae/dan-m-frangopol>

### 2. SIGNIFICANT RECOGNITION

Member of the National Academy of Construction of the United States (NAC), Canadian Academy of Engineering (CAE), Academia Europaea (Academy of Europe, London), Engineering Academy of Japan (EAJ), Mexican Academy of Engineering (AEM), Royal Academy of Belgium for Science and the Arts (KVAB), Romanian Academy (RA), and Romanian Academy of Technical Sciences (ASTR); 5 Honorary Doctoral Degrees at Universities in Belgium (Liège), Italy (Polytechnic of Milan), and Romania (Bucharest, Iași, and Timișoara); 14 Honorary Professorships and 6 Guest Professorships at Universities in Europe, Asia, and Australia.

ASCE Dan M. Frangopol Medal for Life-Cycle Engineering of Civil Structures, officially instituted by action of the ASCE Board of Direction on October 18, 2023.

ASCE Newmark, Freudenthal, Housner and Croes (twice) Medals; ASCE Lifetime Achievement Award in Education (ASCE Outstanding Projects and Leaders (OPAL) Award); ASCE Ang (inaugural), Howard, Moisseiff (twice), and State-of-the-Art of Civil Engineering (three times) Awards; ASCE-AIME-ASME-IEEE-WSE Noble Prize (twice); ASCE Reese and Wellington (twice) Prizes; ASCE Lehigh Valley Section's Civil Engineer of the Year Award; ISHMII Mufti Medal for Lifetime Achievement in Civil SHM; European Council on Computing in Construction (EC<sup>3</sup>) Thorpe Medal; IABSE Outstanding Paper Award (OPA); ELSEVIER Munro Prize; IABMAS T.Y. Lin Medal (inaugural); IALCCE F.R. Khan Medal (inaugural); IASSAR Research Prize; EUROSTRUCT International Award of Merit; KAJIMA Research Award; SAE Distinguished Probabilistic Methods Educator Award (inaugural); IFIP Reliability and Optimization of Structural Systems Award; AICPS Opera Omnia Award.

Distinguished Member of ASCE (the highest honor ASCE can bestow); Fellow of ACI, ASCE-EMI (inaugural), ASCE-SEI (inaugural), IABSE, ISHMII, and JSPS; Honorary Member of the Romanian Association of Structural Design Engineers (AICPS).

Lehigh University (LU) Awards: LU Hillman Faculty Award; LU Eleanor and Joseph F. Libsch Research Award; LU Hillman Award for Excellence in Graduate Advising; P.C. Rossin College of Engineering and Applied Science's Excellence in Research, Scholarship and Leadership Award; Lynn S. Beedle Distinguished Civil and Environmental Engineering Award (the CEE Department's highest recognition, to be awarded November 21, 2024).

University of Colorado-Boulder Awards: Boulder Faculty Assembly's Excellence in Research, Scholarly and Creative Work Award; College of Engineering and Applied Science's Faculty Research Award; Clarence L. Eckel Faculty Prize for Excellence; Distinguished Achievement Award; Research Development Award (twice); Teaching Award; Service Award.

Ranked as the 10th most-cited civil engineering author in the August 2019 Stanford University worldwide citation survey published in PLOS, based on the Scopus citation data for 6 million scientists in 22 major fields and 176 sub-fields; the survey calculated citations deposited in Mendeley Data during the period 1996-2018 and ranked and sorted 100,000 scientists by a composite point index excluding self-citations. 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; position in the ranking was based on a meticulous examination of nearly 11,000 scientists on Google Scholar and Microsoft Academic Graph by December 6th 2021.

Plenary and keynote lectures at over 70 international congresses, conferences, symposia and workshops in Americas, Europe, Asia, Australia, Africa, and New Zealand.

According to ASCE (2012) "Dan M. Frangopol is a preeminent authority in bridge safety and maintenance management, structural systems 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).

### 3. SIGNIFICANT PROFESSIONAL SERVICE

Founding President of the International Association for Bridge Maintenance and Safety (IABMAS); Founding President of the International Association for Life-Cycle Civil Engineering (IALCCE); Founding Vice-President of the International Society for Structural Health Monitoring of Intelligent Infrastructure (ISHMII); Honorary President of 9 National Groups of IABMAS (USA, Brazil, Canada, Chile, Korea, Italy, Sri Lanka, Sweden, and Turkey); Honorary Member of 6 National Groups of IABMAS (Australia, China, Denmark, Japan, Portugal, and Spain); Honorary President of the Dutch Group of IALCCE.

Founder and Editor-in-Chief of the International Journal Structure and Infrastructure Engineering; Founder and Editor of the book series Structures and Infrastructures.

Past Chair of the Technical Activities Division of the Structural Engineering Institute of ASCE; Past Vice- President of the International Association for Structural Safety and Reliability (IASSAR) and Past Chair of the Executive Board of IASSAR; Past Vice-President of the Engineering Mechanics Institute (EMI) of ASCE and Past Member of its Board of Governors; Past Chair of IABSE Commission 1 on Structural Performance, Safety and Analysis; Past-Chair of IFIP WG7.5 on Reliability and Optimization 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; Past-Chair of the ACI Subcommittee on Existing Structures of Committee 348 on Structural Safety.

ASCE Appreciation in Recognition of Distinguished Service to Engineering Mechanics Institute (EMI) as the Vice-President and Member of the Board of Governors; ASCE Distinguished Service Appreciation as Chair of the Technical Division Executive Committee of the Structural Engineering Institute (SEI); IABMAS Special Service Award.

Initiator and Organizer of the Fazlur R. Khan Distinguished Lecture Series at Lehigh University (2007-present), hosted 64 Distinguished Speakers from the United States, Canada, Hong Kong, Japan, Spain, and Switzerland.

Recognition by the Department of Civil and Environmental Engineering at Lehigh University for 18 Years of Service.

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

### 4. DEGREES INCLUDING HONORARY DOCTORAL DEGREES AND HONORARY PROFESSORSHIPS

Doctor Honoris Causa (Honorary Doctoral Degree), Polytechnic University of Timișoara, Timișoara, Romania, 2024.  
Doctor Honoris Causa (Honorary Doctoral Degree), Polytechnic University of Milan (Politecnico di Milano), Milan, Italy, 2016.  
Doctor Honoris Causa (Honorary Doctoral Degree), Technical University of Iași, Romania, 2014.  
Doctor Honoris Causa (Honorary Doctoral Degree), University of Liège, Liège, Belgium, 2008.  
Doctor Honoris Causa (Honorary Doctoral Degree), Technical University of Civil Engineering, Bucharest, Romania, 2001.

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

Doctor of Applied Sciences, University of Liège, Belgium, 1976.

Dissertation Advisors: Prof. Ch. Massonnet (University of Liège, Belgium)  
Prof. J. Ferry-Borges (Director of the National Civil Engineering Laboratory, Lisbon, Portugal).

Title of Thesis: Probabilistic Study of Structural Safety

Degree Awarded: Doctor of Applied Sciences with the highest distinction (summa cum laude) of the University of Liège.

Dipl.-Ing. (Civil Engineer), Institute of Civil Engineering, Bucharest, Romania, 1969.

### 5. ACADEMIC, RESEARCH AND INDUSTRIAL APPOINTMENT

2006 (August) - present	The Fazlur Rahman Khan Endowed Chair of Structural Engineering and Architecture, Lehigh University, Bethlehem, Pennsylvania.
2006 (August) - present	Professor of Civil Engineering, Department of Civil and Environmental Engineering, Lehigh University, Bethlehem, Pennsylvania.

2006 (August) - present	Emeritus Professor and Adjunct Professor, Department of Civil, Environmental and Architectural Engineering, University of Colorado at Boulder, Colorado.
2019 (May) - present	Honorary Professor, China University of Petroleum (East China), Qingdao, China
2018 (October) - present	Honorary Professor, Shenyang Jianzhu University, Liaoning, China
2017 (May) - present	Guest Professor, Zhejiang University, Hangzhou, China
2016 (May) - present	Adjunct Professor, Swinburne University of Technology, Melbourne, Australia
2016 (March) - present	Honorary Professor, Hunan University, Changsha, China
2015 (October) - present	Honorary Professor, Beijing Jiaotong University, Beijing, China.
	Honorary Professor, Chongqing Jiaotong University, Chongqing, China.
	Honorary Professor, Changsha University Science and Technology, Changsha, China.
2015 (August) - present	Honorary Professor, Royal Melbourne Institute of Technology (RMIT University), Melbourne, Australia.
2014 (May) - present	Honorary Professor, Dalian University of Technology, Dalian, China.
2013 (October) - present	Honorary Professor, Harbin Institute of Technology, Harbin, China.
2012 (August) - present	Honorary Professor, The Hong Kong Polytechnic University (Poly U), Hong Kong.
2012 (July) - present	Honorary Professor, Chang'an University, Xian, Shaanxi, China.
2011 (June) - present	Honorary Professor, Southeast University, Nanjing, China.
2011 (June) - present	Honorary Professor, Tianjin University, Tianjin, China.
2009 (September) - present	Honorary Professor, Tongji University, Shanghai, China.
2008 (January) - present	Visiting Chair Professor, National Taiwan University of Science and Technology, Taipei, Taiwan.
1988 (June) - 2006(August)	Professor, Department of Civil, Environmental and Architectural Engineering, University of Colorado at Boulder, Boulder, Colorado.
1983 (March) - 1988 (May)	Associate Professor, Department of Civil, Environmental and Architectural Engineering, University of Colorado at Boulder, Boulder, Colorado.
1979 (September) - 1983 (March)	Project Engineer, A. LIPSKI Consulting Engineers, Brussels, Belgium.
1977 (January) - 1979 (August)	Associate Professor, Institute of Civil Engineering, Bucharest, Romania.
1974 (January) - 1976 (December)	Research Structural Engineer (structural reliability, analysis and design of inelastic structures, structural optimization), Department of Mechanics of Materials and Structural Engineering, University of Liège, Belgium
1969 (September) - 1974 (January)	Assistant Professor, Institute of Civil Engineering, Bucharest, Romania.

## 6. GUEST PROFESSOR, VISITING CHAIR PROFESSOR, VISITING PROFESSOR, SCIENTIST AND RESEARCHER

Visiting Professor, Technical University of Crete, Chania, Greece, June 2024.

Visiting Guest Professor, University of Natural Resources and Applied Life Sciences, Vienna, Austria, June 2024.

Visiting Honorary Professor, Hong Kong Polytechnic University, Hong Kong, April 2024.

Visiting Professor, Technical University of Crete, Chania, Greece, October 2022.

Visiting Professor, Technical University of Catalonia (UPC), Barcelona, Spain, July 2022.

Visiting Professor, Technical University of Crete, Chania, Greece, June 2019.

Visiting Honorary Professor, Hong Kong Polytechnic University, Hong Kong, November 2018.

Visiting Honorary Professor, Royal Melbourne Institute of Technology (RMIT University), Melbourne, Australia, July 2018.

Visiting Professor, Waseda University, Tokyo, Japan, June 2018.

Visiting Honorary Professor, Hong Kong Polytechnic University, Hong Kong, November 2017.

Visiting Guest Professor, Zhejiang University, Hangzhou, China, May 2017.

Visiting Professor, Waseda University, Tokyo, Japan (JSPS Invitation Fellowship for Research in Japan (Short-term)), March 2017.

Visiting Honorary Professor, Royal Melbourne Institute of Technology (RMIT University), Melbourne, Australia, February 2017.

Visiting Professor, Swiss Federal Institute of Technology (EPFL), Lausanne, Switzerland, July-August 2016.

Visiting Professor, Swiss Federal Institute of Technology (ETH), Zurich, Switzerland, July 2016.

Visiting Professor, Czech Technical University in Prague, Prague, Czech Republic, July 2016.

Visiting Honorary Professor, Beijing Jiaotong University, Beijing, China, June 2016.

Visiting Professor, Polytechnic University of Valencia, Valencia, Spain, April-May 2016.

Visiting Honorary Professor, Hong Kong Polytechnic University, Hong Kong, April 2016.

Visiting Professor, National Taiwan University of Science and Technology, Taipei, Taiwan, one week per year, 2015-2018.

Visiting Honorary Professor, Changsha University of Science and Technology, Changsha, China, December 2015.

Visiting Professor, Swiss Federal Institute of Technology (ETH), Zurich, Switzerland, June 2014.

Visiting Honorary Professor, Hong Kong Polytechnic University, Hong Kong, March 2014.

Visiting Distinguished Scientist, SmartEN Marie Curie ITN, EU Project, Cyprus University of Technology, Limassol, Cyprus, May 2013.

Guest Professor, Wuhan University of Science and Technology, Wuhan, China, February 2013 – February 2016.

Visiting Professor, French Institute of Science and Technology for Transport, Development and Networks (IFSTTAR), Paris, France, July 2011.

Visiting Guest Professor, Université Paris-Est, Marne-la-Vallée, France, July 2011.

Visiting Guest Professor, Central South University of Forestry and Technology, Changsha, Hunan, China, March 2010 –

Guest Professor, University of Natural Resources and Applied Life Sciences, Vienna, Austria, June 2008, June 2009, June 2010.

Visiting Chair Professor, National Taiwan University of Science and Technology, Taipei, Taiwan, January 2008 –

Distinguished Scientist, SmartEN Marie Curie ITN, EU Project, Cyprus University of Technology, Limassol, Cyprus, June 2010-2013.

Visiting Professor, Tongji University, Shanghai, China, September 2009.

Distinguished Visiting Professor, Distinguished Visiting Fellowship from the Royal Academy of Engineering (Britain's National Academy of Engineering, London), University of Surrey, Guildford, Surrey, United Kingdom, March 2008.

Visiting Professor, Yamaguchi University, Ube, Japan, November 2005.  
 Visiting Professor, Swiss Federal Institute of Technology (EPFL), Lausanne, Switzerland, June-August 2005.  
 Visiting Professor, Technical University of Braunschweig, Braunschweig, Germany, March-May 2005.  
 Visiting Professor, Kyoto University, Kyoto, Japan (JSPS Invitation Fellowship for Research in Japan), June 2003.  
 Visiting Scholar, University of Surrey, Guildford, Surrey, United Kingdom, five short visits in 2000 and 2001.  
 Visiting Professor, Swiss Federal Institute of Technology, Lausanne, Switzerland, June-August 1998.  
 Visiting Researcher, Kansai University, Osaka, Japan, April and May 1998.  
 Visiting Professor, Swiss Federal Institute of Technology, Lausanne, Switzerland, June and July 1997.  
 Visiting Professor, University of Trento, Trento, Italy, May and June 1995.  
 Visiting Scholar, Kyoto University, Kyoto, Japan, July and August 1994.  
 Visiting Professor, Technical University (Politecnico) of Milan, Milan, Italy, July 1993.  
 Visiting Senior Scientist, Fellow of Royal Norwegian Council for Scientific and Industrial Research, University of Trondheim (NTH), Trondheim, Norway, June and July 1991, and June 1992.  
 Visiting Research Professor, University of Waterloo, Waterloo, Ontario, Canada, May 1991.  
 Visiting Professor, National Defense Academy, Yokosuka, Japan, October 1989.  
 Visiting Professor, Swiss Federal Institute of Technology, Lausanne, Switzerland, June and July 1989.  
 Visiting Research Associate Professor, University of Waterloo, Waterloo, Ontario, Canada, October 1980.  
 Visiting Research Associate, Laboratório Nacional de Engenharia Civil, Lisbon, Portugal, September 1976.

## 7. HONORS, AWARDS AND FELLOWSHIPS

2024

ASCE Alfred Noble Prize, *for the exceptional merit of a paper published across all technical publications of five major engineering societies in the United States, including ASCE, AIME, ASME, IEEE, and WSE*, 2024;  
*Citation:* For the paper “Life-cycle Risk-based Optimal Maintenance Strategy for Bridge Networks Subjects to Corrosion and Seismic Hazards,” published in the January 2023 issue of the ASCE Journal of Bridge Engineering.  
 Lynn S. Beedle Distinguished Civil and Environmental Engineering Award, Lehigh University (the CEE Department’s highest recognition, to be awarded November 21, 2024).  
 AICPS Opera Omnia Award of the Romanian Association of Structural Design Engineers, June 2024.  
 Honorary Member, Romanian Association of Structural Design Engineers (AICPS), elected June 2024.  
 Doctor Honoris Causa (Honorary Doctorate Degree), Polytechnic University of Timișoara, Timișoara, Romania, May 28, 2024.  
 Recognition by the Department of Civil and Environmental Engineering at Lehigh University for 18 Years of Service, May 17, 2024.

2023

Honorary President, International Association for Bridge Maintenance and Safety – Sweden Group, 2023.  
 ASCE DAN M. FRANGOPOL MEDAL FOR LIFE-CYCLE ENGINEERING OF CIVIL STRUCTURES, officially instituted by action of the ASCE Board of Direction on October 18, 2023.  
 MEXICAN ACADEMY OF ENGINEERING, Corresponding Member, Elected in 2023.  
 EUROSTRUCT International Award of Merit, European Association on Quality Control of Bridges and Structures, 2023.  
 The Kececioglu Memorial Lecture, University of Arizona, Tucson, Arizona, October 5, 2023.  
 Honorary Member, International Association for Bridge Maintenance and Safety – Denmark Group, 2023.  
 ASCE Journal of Bridge Engineering, Editor Choice, 2023;  
*Citation:* For the paper “Life-cycle risk-based optimal maintenance strategy for bridge networks subjected to corrosion and seismic hazards,” published in Volume 28, Issue 1, January 2023.

2022

CANADIAN ACADEMY of ENGINEERING, International Fellow, Elected in 2022;  
*Citation:* “For the creation, development, and application of the field of life-cycle engineering under uncertainty - as a major contribution to the permanent knowledge base with a significant impact on civil engineering design, teaching, and practice - and world leadership and service in promoting international cooperation in the fields of safety, risk, structural health monitoring, maintenance management optimization, and life-cycle performance and cost of structures and infrastructure systems to enhance the welfare of society.”  
 ASCE Arthur M. Wellington Prize, 2022;  
*Citation:* For the paper “Optimum Target Reliability Determination for Efficient Service Life Management of Bridge Networks,” published in the October 2020 issue of the ASCE Journal of Bridge Engineering  
 ASCE Moisseiff Award, 2022;  
*Citation:* For the paper “Determining Target Reliability Index of Structures Based on Cost Optimization and Acceptance Criteria for Fatality Risk,” published in the June 2021 issue of ASCE-ASME Journal of Risk Uncertainty in Engineering Systems, Part A: Civil Engineering.  
 EUROPEAN COUNCIL on COMPUTING in CONSTRUCTION (EC<sup>3</sup>) Thorpe Medal, 2022;  
*Citation:* For the paper “Digital Technologies Can Enhance Global Climate Resilience of Critical Infrastructure,” published online in December 2021 in the open access journal Climate Risk Management, Elsevier, 35, 2022.  
 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. Position in the ranking was based on a meticulous examination of nearly 11,000 scientists on Google Scholar and Microsoft Academic Graph by December 6<sup>th</sup> 2021.  
 Ranked as the most cited author (lifetime) in the ASCE Journal of Structural Engineering, by exaly.com (a full-text search engine with a database of 103 million scholarly articles) as of May 27, 2022. This journal is one of the flagship journals of ASCE, first published in 1873 as part of ASCE Proceedings, and starting publishing separately in 1956.  
 Honorary President, International Association for Bridge Maintenance and Safety – Canada Group, 2022.  
 ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering, Editor Choice, 2022;

*Citation:* For the paper “Risk-informed bridge optimal maintenance strategy considering target service life and user cost at project and network levels,” published in Volume 8, Issue 4, December 2022.

2021

ISHMII Aftab Mufti Medal for Lifetime Achievement in Civil Structural Health Monitoring, 2021;

*Citation:* “For lifetime achievements in civil structural health monitoring.”

Honorary Member, International Association for Bridge Maintenance and Safety – Spain Group, 2021.

Elected Member of the Advisory Committee of the International Joint Research Center for Resilient Infrastructure, hosted by Tongji University, Shanghai, China, 2021.

2020

ENGINEERING ACADEMY of JAPAN, Foreign Associate, Elected in 2020.

U.S. NATIONAL ACADEMY of CONSTRUCTION, Member, Elected in 2020;

*Elected for:* “Significant contributions to scientific knowledge and a world-renowned pioneer, expert, and leader in the field of life-cycle cost, safety, and optimal management of civil infrastructure.”

ASCE Alfred M. Freudenthal Medal, 2020;

*Citation:* “For outstanding contributions to the advancement of probabilistic, reliability and risk methods in civil engineering, particularly in developing probabilistic models for life-cycle performance assessment, maintenance and optimum management of civil infrastructure systems in diverse loading environments.”

ASCE Raymond C. Reese Research Prize, 2020;

*Citation:* For the paper “Utility and information analysis for optimum inspection of fatigue-sensitive structures.” published in the February 2019 issue of the ASCE Journal of Structural Engineering.

Lehigh University, P.C. Rossin College of Engineering and Applied Science’s Excellence in Research, Scholarship & Leadership Award, 2020;

This award recognizes a Rossin college faculty member who has demonstrated outstanding scholarships (through publications, patents, etc.) and is considered to be a prominent research leader in their field, thus bringing recognition to Lehigh.

Honorary President, International Association for Bridge Maintenance and Safety – USA Group, Washington, DC, 2020.

Honorary President, International Association for Life-Cycle Civil Engineering – Dutch Group, 2020.

2019

ASCE George W. Housner Structural Control and Monitoring Medal, 2019;

*Citation:* “For pioneering contributions to the integration of structural health monitoring and control in life-cycle reliability-assessment, design and optimization of civil and marine infrastructure.”

ASCE State-of-the-Art of Civil Engineering Award, 2019;

*Citation:* For the paper “Bridge adaptation and management under climate change uncertainties: A review,” published in the February 2018 issue of the ASCE Journal Natural Hazards Review.

Hillman Faculty Award, Lehigh University, 2019;

*The award recognizes excellence in teaching, research work, and for advancing the interests of the University. Traditionally the University reserves this award for those who have distinguished themselves through long-term excellence or service to the institution.*

Ranked as the 10<sup>th</sup> most-cited civil engineering author in the 2019 Stanford University worldwide citation survey, published in PLOS.

Based on the Scopus citation data for 6 million scientists in 22 major fields and 176 sub-fields; the survey calculated citations deposited in Mendeley Data during the period 1996-2018 and ranked and 100,000 scientists by a composite index excluding self-citations.

Honorary Professor, China University of Petroleum (East China), Qingdao, China, 2019.

Honorary President, International Association for Bridge Maintenance and Safety – Sri Lanka Group, Columbus, Sri Lanka, 2019.

Executive President, Asia Pacific Pipeline Conference 2019 (APPC 2019), Qingdao, China, May 15-19, 2019.

Honorary Chair, IABMAS Japan-China Workshop on Bridge Maintenance and Safety, Osaka, Japan, March 16-20, 2019.

2018

Honorary President, International Association for Bridge Maintenance and Safety – Korea Group, Seoul, Korea, 2018.

Honorary President, International Association for Bridge Maintenance and Safety – Turkey Group, Ankara, Turkey, 2018.

Honorary President, International Association for Bridge Maintenance and Safety – Chile Group, Santiago, Chile, 2018.

Honorary Professor, Shenyang Jianzhu University, Liaoning, China, 2018.

Visiting Honorary Professor, The Hong Kong Polytechnic University, Hong Kong, 2018.

Visiting Honorary Professor, Royal Melbourne Institute of Technology (RMIT University), Melbourne, Australia, 2018.

Inaugural Member, International Academic Steering Committee of the International Institute of Smart Structure Systems and Informatics (ISSSI) at Zhejiang University, China, July 2018.

2017

Visiting Honorary Professor, The Hong Kong Polytechnic University, Hong Kong, 2017.

ROMANIAN ACADEMY, Honorary Member, Section: Engineering Science, Elected in 2017.

The 2016 Civil Engineer of the Year Award of the Lehigh Valley Section of ASCE (LVASCE), Bethlehem, PA, USA, 2017.

JSPS Fellowship Award for Research in Japan (short-term), Japan Society for the Promotion of Science, Waseda University, Tokyo, Japan, 2017.

Guest Professor, Zhejiang University, Hangzhou, China, 2017.

Elected Member of the International Joint Research Center for Engineering Reliability and Stochastic Mechanics (CERSM), hosted by Tongji University, Shanghai, China, 2017.

2016

ROYAL ACADEMY of BELGIUM for SCIENCE and the ARTS, Foreign Member, Section: Technical Sciences, Elected in 2016/  
ASCE OPAL (Outstanding Projects and Leaders) Lifetime Achievement Award for Education, 2016;  
*The award recognizes demonstrated excellence in furthering civil engineering education. According to ASCE "Candidates are professors and deans whose careers are marked by achievements that direct or change the course of engineering education. Lifetime recipients represent a model of achievement to which future generations of engineers aspire to match or exceed."*  
ASCE Alfredo Ang Award on Risk Analysis and Management of Civil Infrastructure, 2016 (Inaugural Award);  
*Citation: "For exceptional efforts in advancing, advocating and persistently promoting the life-cycle cost analysis of structures and structural systems, and their integration into reliability-based structural analysis and design."*  
Doctor Honoris Causa (Honorary Doctoral Degree, Laurea ad Honorem), Polytechnic University of Milan (Politecnico di Milano), Milan, Italy, 2016;  
*Title offered for outstanding and pioneering contributions to the fields of life-cycle performance, risk, safety and reliability of civil structures and infrastructure systems.*  
Hilmann Award for Excellence in Graduate Advising, Lehigh University, 2016;  
*This award recognizes excellence in teaching, research or advancing the interests of Lehigh University and exemplary student advising.*  
Honorary Professor, Hunan University, Changsha, China, 2016.

2015

ACADEMIA EUROPAEA (Academy of Europe, London), Member, Section: Physics and Engineering Sciences, Elected in 2015.  
ASCE Alfred Noble Prize, *for the exceptional merit of a paper published across all technical publications of five major engineering societies in the United States, including ASCE, AIME, ASME, IEEE, and WSE*, 2015;  
*Citation: For the paper "Life-cycle management of fatigue sensitive structures integrating inspection information," published in the June 2014 issue of the ASCE Journal of Infrastructure Systems.*  
Honorary Professor, Beijing Jiaotong University, Beijing, China, 2015.  
Honorary Professor, Chongqing Jiaotong University, Chongqing, China, 2015.  
Honorary Professor, Changsha University of Science and Technology, Changsha, China, 2015.  
Honorary Professor, Royal Melbourne Institute of Technology (RMIT University), Melbourne, Australia, 2015.  
Honorary Member, International Association for Bridge Maintenance and Safety - Japan Group, 2015.  
Certificate of Appreciation in recognition of distinguished service to Engineering Mechanics Institute (EMI) as the Vice President (2014-2015) and Member of the Board of Governors (2013-2015), American Society of Civil Engineers, 2015.

2014

Doctor Honoris Causa (Honorary Doctoral Degree), Gheorghe Asachi Technical University of Iași, Iași, Romania, 2014;  
*Title offered for remarkable scientific merits in the development of civil engineering, especially in the field of structural engineering.*  
ASCE J. James R. Croes Medal, for the second-best paper among all 45 ASCE journals, 2014;  
*Citation: For the paper "Generalized probabilistic framework for optimum inspection and maintenance planning," published in the March 2013 issue of the ASCE Journal of Structural Engineering.*  
Honorary Professor, Dalian University of Technology, Dalian, China, 2014.  
Honorary Member, Foundation of the Polytechnic University of Timișoara, Timișoara, Romania, 2014.  
Honorary Member, International Association for Bridge Maintenance and Safety – Australia Group, 2014.  
Vice-President of the Engineering Mechanics Institute (EMI), American Society of Civil Engineers, Elected in 2014.

2013

Eleanor and Joseph F. Libsch Research Award, Lehigh University, 2013;  
*The award recognizes excellence in research, and the quality, quantity and impact of scholarship.*  
Vice-President of the International Association for Structural Safety and Reliability (IASSAR), Elected in 2013.  
Inaugural Fellow, Engineering Mechanics Institute, ASCE, 2013.  
Governor of the Engineering Mechanics Institute, ASCE Presidential Appointee, 2013 - 2015.  
Honorary President, International Association for Bridge Maintenance and Safety – Brazil Group, 2013.  
Honorary President, International Association for Bridge Maintenance and Safety – Italy Group, 2013;  
*Citation: "For his outstanding contributions as creator and founder of IABMAS, an extremely fertile environment for the advancement of scientific knowledge and education of future generations of researchers in the field of bridge inspection, maintenance, safety and management."*  
Honorary Professor, Harbin Institute of Technology, Harbin, China, 2013.  
Guest Professor, Wuhan University of Science and Technology, Wuhan, Hubei, China, 2013.

2012

IALCCE Fazlur R. Khan Life-Cycle Civil Engineering Medal, 2012;  
*Citation: "For significant contributions to and strong leadership in life-cycle engineering,"*  
ASCE Arthur M. Wellington Prize, 2012;  
*Citation: "For the paper Novel Approach for Multicriteria Optimization of Life-Cycle Preventive and Essential Maintenance of Deteriorating Structures," published in the August 2010 issue of the ASCE Journal of Structural Engineering.*  
IABMAS (International Association for Bridge Maintenance and Safety) Special Service Award, 2012;  
*Citation: "In recognition of outstanding service to IABMAS as co-chair and co-organizer of the Fifth International Conference on Bridge Maintenance, Safety and Management, Philadelphia, Pennsylvania, USA, July 11-15, 2010."*  
IABMAS Senior Research Prize, 2012;  
*Citation: "In recognition of outstanding contributions to bridge life-cycle performance, maintenance, monitoring and cost-optimization under uncertainty."*

Honorary Professor, Hong Kong Polytechnic University (PolyU), Hong Kong, 2012.  
Honorary Professor, Chang'an University, Xian, Shaanxi, China, 2012.  
*Citation:* "In recognition of his outstanding contributions to structural and bridge engineering."  
Inaugural Fellow, Structural Engineering Institute, ASCE, 2012.  
Honorary Member, International Association for Bridge Maintenance and Safety – China Group, 2012.

#### 2011

Honorary Professor, Tianjin University, Tianjin, China, 2011.  
Honorary Professor, Southeast University, Nanjing, China, 2011.  
Guest Professor, Université Paris-Est, Marne-la-Vallée, France, July 2011.

#### 2010

ASCE Distinguished Member (the highest honor ASCE can bestow; formerly called Honorary Member), Class of 2010;  
*Citation* (on the ASCE certificate): "For acknowledged eminence related to his contributions to the advancement of civil engineering research, education, and practice, particularly in structural safety, bridge engineering, and the integration of maintenance-monitoring-management with life-cycle performance and cost through multi-criteria optimization under uncertainty."  
*Citation* (on the ASCE website): "For his outstanding contributions to the advancement of civil engineering, particularly the integration of maintenance-monitoring-management and life-cycle cost of deteriorating structures through multi-criteria optimization under uncertainty; for his demonstrated worldwide leadership in bridge engineering and life-cycle civil engineering; and for his dedicated service to the structural engineering profession."  
Guest Professor, Central South University of Forestry and Technology, Changsha, Hunan, China, Appointed March 2010.

#### 2009

Honorary Professor, Tongji University, Shanghai, China, 2009.  
ISHMII (International Society for Health Monitoring of Intelligent Infrastructure) Fellowship Award, 2009.  
Founder and Inaugural Chair of the ASCE-SEI Technical Council on Life-Cycle Performance, Safety, Reliability and Risk of Structural Systems (Approved by ASCE-SEI on October 1, 2008).

#### 2008

IALCCE (International Association for Life-Cycle Civil Engineering), Senior Research Award, 2008;  
*Citation:* "In recognition of distinguished achievements in the field of life-cycle civil engineering."  
RAE (Royal Academy of Engineering (Britain's National Academy for Engineering)) Distinguished Visiting Fellowship Award, 2008;  
For research with Professor Marios K. Chryssanthopoulos, University of Surrey, in the areas of "Integration of structural health monitoring with risk-based performance. The fatigue and fracture behavior of metallic highway bridges."  
Doctor Honoris Causa (Honorary Doctoral Degree), University of Liège, Liège, Belgium, 2008.  
Visiting Chair Professor, National Taiwan University of Science and Technology, Taipei, Taiwan, appointed January 2008.

#### 2007

ASCE Ernest E. Howard Award, 2007;  
*Citation:* "For outstanding contributions to the advancement of structural engineering, particularly in the risk assessment and maintenance planning of deteriorating civil infrastructures, and notable recommendations for implementation of research results in design practice."  
ELSEVIER Munro Prize, 2006, awarded in 2007, the Engineering Structures Award for the Best Paper of the Year;  
*Citation:* For the paper "Optimum maintenance strategy for deteriorating bridge structures based on lifetime functions." Engineering Structures, Elsevier, Vol. 28, No. 2, 2006, pp.196-206.  
IABSE OPA Award 2006.  
Presented in recognition of the most outstanding paper published in 2006 in Structural Engineering International (SEI), the Journal of IABSE;  
*Citation:* For the paper "Time-variant structural performance of the Certosa cable-stayed bridge." published in SEI, August 2006, pp. 235-244.

#### 2006

T. Y. Lin Medal, T. Y. Lin International, 2006;  
Awarded jointly by T. Y. Lin International and International Association for Bridge Maintenance and Safety  
*Citation:* "For outstanding contributions to bridge maintenance, safety and life-cycle cost."  
IFIP Reliability and Optimization of Structural Systems Award, 2006;  
*Citation:* "In recognition of your outstanding contributions as Chair of IFIP TC7 Working Group 7.5 on Reliability and Optimization of Structural Systems to promote modern structural system reliability and optimization theory and advance international cooperation in the field of structural system reliability and optimization."  
Founding President of the International Association for Life-Cycle Civil Engineering (IALCCE) and Chair of the Executive Board of IALCCE, 2006-present.  
Honorary Member of the International Association for Information Processing (IFIP) Working Group on Reliability and Optimization of Structural Systems, 2006.  
Honorary Member of the Portuguese Group of the International Association for Bridge Maintenance and Safety (IABMAS), 2006.  
Chairman of the Executive Board of the International Association for Structural Safety and Reliability (IASSAR), Elected in 2006.  
Member of Electoral Board of Cyprus University of Technology Limassol, Cyprus, 2006.  
Expert of International Standing, Designated by the Australian Research Council (ARC) College of Experts, 2006.  
Fellow of the International Association for Bridge and Structural Engineering (IABSE), by Invitation, 2006,

2005

ASCE Nathan M. Newmark Medal, 2005

Awarded jointly by the ASCE Engineering Mechanics Division and Structural Engineering Institute;

*Citation:* "For outstanding contributions to structural engineering and mechanics, particularly the modeling and optimization of lifetime system performance of deteriorating materials and structures in the civil infrastructure."

Founding Editor-in-Chief, *Structure and Infrastructure Engineering*, An international scientific peer-reviewed journal included in the Science Citation Index, Taylor & Francis Ltd., 2005-present.

Founding Book Series Editor, *Structures and Infrastructures*, Taylor & Francis, Leiden, The Netherlands, 2005-present.

2004

ASCE State-of-the-Art of Civil Engineering Award, 2004;

*Citation:* For the report "Recent Advances in Optimal Structural Design." published by ASCE, ISBN 0-7844-0636-7, 2002

Kajima Research Award, Kajima Corporation, 2004;

*Citation:* "In recognition of pioneering contributions to the development of novel maintenance and management models for deteriorating civil infrastructure systems with emphasis on bridges using reliability, life-cycle cost, and optimization."

Faculty Assembly of the University of Colorado at Boulder Excellence in Research, Scholarly and Creative Work Award, Boulder Faculty Assembly, University of Colorado, 2004.

Founding Vice-President, Member of the Executive Committee, Member of the Council, and Co-Founder of the International Society for Health Monitoring of Intelligent Infrastructures, ISHMII, 2004-present.

Chair, International Advisory Board of the Research Unit on Life-Cycle Science and Engineering, Kansai University, Osaka, Japan, Appointed 2004.

2003

ASCE Moisseiff Award, 2003;

*Citation:* For the paper "Reliability-based assessment of suspension bridges: Application to the Innoshima Bridge." published in the November-December 2001 issue of the ASCE Journal of Bridge Engineering.

Clarence L. Eckel Faculty Prize for Excellence, Department of Civil, Environmental, and Architectural Engineering, University of Colorado, Boulder, 2003.

Honorary Technical Advisor for Korea Infrastructure Safety and Technology Corporation (KISTEC), Seoul, Korea, Appointed 2003.

JSPS Fellowship Award for Research in Japan, Japan Society for the Promotion of Science, Kyoto University, June 2003.

2002

Service Award, Department of Civil, Environmental, and Architectural Engineering, University of Colorado, Boulder, 2002.

2001

ASCE J. James R. Croes Medal, for the second-best paper among all ASCE journals, 2001;

*Citation:* For the paper "Condition prediction of deteriorating concrete bridges using Bayesian updating," published in the October 1999 issue of the ASCE Journal of Structural Engineering.

Research Prize in the area of System Reliability and Optimization, 2001,

Awarded by the International Association for Structural Safety and Reliability (IASSAR);

*Citation:* "In recognition of contributions to the integration of lifetime system reliability and life-cycle cost through optimization."

Doctor Honoris Causa (Honorary Doctoral Degree), Technical University of Civil Engineering, Bucharest, Romania, 2001.

Distinguished Service Appreciation as Chair of the Technical Division Executive Committee of the Structural Engineering Institute, ASCE, Washington D.C., 2001.

Director and Co-Founder, Consortium on Advanced Life Cycle Engineering for Sustainable Civil Environments (COALESCE), 2001-2006.

2000

ROMANIAN ACADEMY of TECHNICAL SCIENCES, Honorary Member, Elected in 2000.

Distinguished Achievement Award, Department of Civil, Environmental, and Architectural Engineering, University of Colorado, Boulder, 2000.

1999

Founding President of the International Association for Bridge Maintenance and Safety (IABMAS), and Chair of the Executive Committee of IABMAS, 1999-present.

University of Colorado College of Engineering and Applied Science's Faculty Research Award, 1999.

*Citation:* "For outstanding contributions to the advancement of knowledge through research activities."

1998

ASCE State-of-the-Art of Civil Engineering Award, 1998;

*Citation:* "For the ASCE Manuals and Reports on Engineering Practice 90, Guide to Structural Optimization, 1997."

FHWA Award of Appreciation, Co-Recipient with Prof. P.B. Shing, presented by the Federal Highway Administration to the University of Colorado, 1998

*Citation:* "In recognition of valuable contributions to advancements in high performance concrete technology for bridges."

Research Development Award, Department of Civil, Environmental, and Architectural Engineering, University of Colorado, Boulder, 1998.

1997

Fellow of the American Concrete Institute, Elected 1997.



1996

Distinguished Probabilistic Methods Educator Award, Society of Automotive Engineers (SAE) International, 1996 (First Winner of this Award);

*Citation:* "Excellence in developing and implementing undergraduate and graduate courses in probabilistic methods and optimization in structural engineering, and outstanding academic research in probabilistic methods for reliability - based life - cycle optimization of structural systems and implementation for highway bridges."

Congress of the United States Official Proclamation entitled "A Tribute to the University of Colorado Boulder Campus, Dr. Dan M. Frangopol." upon receiving the First SAE International 1996 Distinguished Probabilistic Methods Educator Award, 1996.

*Before 1996*

Visiting Scholar Fellowship, Kyoto University and Sogo Engineering Corporation, Tokyo, Japan, 1994.

Fellow of the American Society of Civil Engineers, Elected in 1993.

Senior Scientist Fellowship, Royal Norwegian Council for Scientific and Industrial Research, 1991 & 1992.

Distinguished Leadership Award, American Biographical Institute, 1990.

Engineering Professor of the Year Fellowship, National Defense Academy, Yokosuka, Japan, 1989.

Research Development Award, Department of Civil, Environmental, and Architectural Engineering, University of Colorado, Boulder, 1988.

Teaching Award, Department of Civil, Environmental, and Architectural Engineering, University of Colorado, Boulder, 1987.

The Highest Distinction PhD Thesis Award, University of Liège, Belgium, 1976.

## 8. PLENARY, KEYNOTE, DISTINGUISHED, NAMED AND SPECIAL LECTURES

2025

Ninth International Symposium on Life-Cycle Civil Engineering (IALCCE2025), Melbourne, Australia, July 15-19, 2025 (Keynote Lecture with S. Kim).

Fifth International Workshop on Capacity Assessment of Corroded Reinforced Concrete Structures (CACRCS2025), Lecco, Italy, June 30-July 3, 2025 (Keynote Lecture with M. Akiyama).

2024

National Conference of the Romanian Association of Structural Design Engineers (AICPS2024), Iași, Romania, June 5-7, 2024 (Keynote Lecture).

Fourth International Conference on Coordinating Engineering for Sustainability and Resilience (CESARE2024), Timișoara, Romania, May 29-31, 2024 (Keynote Lecture with M. Akiyama).

Ceremony of the Polytechnic University of Timișoara, Romania, to Award the Honorary Doctorate Degree (Doctor Honoris Causa) to Dan M. Frangopol, May 28, 2024 (Ceremonial Lecture and Acceptance Speech).

Twentieth International Probabilistic Workshop (IPW2024), Guimaraes, Portugal, May 8-10, 2024 (Keynote Lecture).

Fourth International Conference on Vulnerability and Risk Analysis and Management (ICVRAM2024) & Eighth International Symposium on Uncertainty Modeling and Analysis (ISUMA2024), Shanghai, China, April 25-28, 2024 (Keynote Lecture with M. Akiyama).

NAVFAC-USNA Workshop on Resilience of Navy Waterfront Facilities in a Changing Climate, Part II: Resilience Planning and Climate Adaptation, ASCE Headquarters, Reston, VA, April 23-24, 2024 (Keynote Lecture).

Resilient Cities and Structures (RCS) Academic Forum Series Webinar, invited by Elsevier (Resilient Cities and Structures Journal) and Tongji University, April 18, 2024 (Invited Webinar).

Sixth Conference of the IABMAS-China National Group, Zhenjiang, Jiangsu Province, China, April 12-14, 2024 (Keynote Lecture with M. Akiyama).

Workshop on Climate-resilient Coastal Cities, The Hong Kong Polytechnic University, Hong Kong, China, April 11, 2024 (Invited Speaker).

RISUD Lecture, The Hong Kong Polytechnic University, Research Institute for Sustainable Urban Development, Hong Kong, China, April 8, 2024 (Invited Lecture).

2023

Ceremony of the Mexican Academy of Engineering to Award the Title of Corresponding Member to Dan M. Frangopol, Mexico City, Mexico, November 9, 2023 (Ceremonial Lecture).

Kececioglu Memorial Lecture, Aerospace and Mechanical Engineering Department, University of Arizona, Tucson, Arizona, October 5, 2023 (Annual Memorial Lecture).

Fourth International Workshop on Capacity Assessment of Corroded Reinforced Concrete Structures (CACRCS2023), Parma, Italy, September 12-15, 2023 (Keynote Lecture with M. Akiyama).

Second International Conference on Advances in Civil Infrastructure and Construction Materials (CICM2023), Dhaka, Bangladesh, July 26-28, 2023 (Keynote Lecture).

Eighth International Symposium on Life-Cycle Civil Engineering (IALCCE2023), Milan, Italy, July 2-6, 2023 (Keynote Lecture with M. Akiyama).

Sixth International Workshop on Seawater Sea-sand Concrete (SSC) Structures Reinforced with FRP Composites (6th FRP-SSC Workshop), Hong Kong, China, February 25-26, 2023, Invited Lecture with M. Akiyama).

2022

Third Multi-hazard Risk and Resilience Workshop, Western University, London, Ontario, Canada, November 3-4, 2022 (Keynote Lecture).

International Symposium on Emerging Developments and Innovative Applications of Reliability Engineering and Risk Management (EDIARR2021), Taipei, Taiwan, October 30 - November 3, 2022 (Keynote Lecture with M. Akiyama).  
Tenth International Symposium on Steel Bridges (SBIS 2022), Istanbul, Turkey, September 21-22, 2022 (Keynote Lecture).  
Third International Conference on Natural Hazards & Infrastructure (ICONHIC 2022), Athens, Greece, July 5-7, 2022 (Keynote Lecture).  
Tenth International Conference on the Behavior of Steel Structures in Seismic Areas (STESSA 2022), Timisoara, Romania, May 25-27, 2022 (Keynote Lecture with M. Akiyama).

#### 2021

International Forum on Innovation Base of Earthquake Engineering Comprehensive Simulation (IBEECS) & First International Forum on the Latest Developments on Resilient Cities, Tianjin University, Tianjin, China, December 8, 2021 (Keynote Lecture).  
Inaugural Annual Memorial J.R. Choudhury (JRC) Lecture, Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh, December 3, 2021 (Inaugural Annual Memorial Lecture).  
Thirty First European Safety and Reliability Conference (ESREL 2021), Angers, France, September 19-23, 2021 (Plenary Lecture)  
First Conference of the European Association on Quality Control of Bridges and Structures (EUROSTRUCT 2021), Padua, Italy, August 29-September 1, 2021 (Keynote Lecture).  
IABMAS Webinar on Bridge Load Testing, New York, USA, April 7, 2021 (Virtual Speaker).  
IABSE Congress, Resilient Technologies for Sustainable Infrastructures (IABSE Congress 2020), Christchurch, New Zealand, February 3-5, 2021 (Keynote Lecture).

#### 2020

Second International Conference on Advances in Civil Infrastructure and Construction Materials (CICM 2020), Dhaka, Bangladesh, December 13-15, 2020 (Keynote Lecture, conference postponed).  
FHWA Virtual Workshop on Redundancy in Bridges for Risk Mitigation in a Multi-Hazard Environment, Workshop by Invitation Only, Washington, D.C., USA, July 21-28, 2020 (Keynote Lecture).

#### 2019

Tenth International Conference on Structural Engineering and Construction Management (ICSESM2019), Kandy, Sri Lanka, December 12-14, 2019 (Keynote Lecture).  
Tenth International Conference on Structural Engineering and Construction Management (ICSESM2019), Kandy, Sri Lanka, December 12-14, 2019 (Special Lecture).  
International Symposium on Reliability of Multi-Disciplinary Engineering Systems under Uncertainty, Taipei, Taiwan, December 8-12, 2019 (Keynote Lecture).  
Third Symposium on the Long-term Performance of RC Structures, Kunming, Yunnan, China, November 14-15, 2019 (Keynote Lecture).  
IALCCE Workshop on Life-Cycle Management (LCM2019), Rotterdam, Netherlands, October 27-29, 2019 (Plenary Lecture).  
Ninth International Conference on Structural Health Monitoring of Intelligent Infrastructure (SHMII2019), St. Louis, Missouri, August 4-7, 2019 (Keynote Lecture).  
Second International Conference on Natural Hazards & Infrastructure (ICONHIC2019), Chania, Greece, June 23-26, 2019 (Invited Theme Lecture).  
Second National Conference on Wind Engineering (2NCWE), Bucharest, Romania, June 6-7, 2019 (Keynote Lecture).  
Second International Conference on Health Monitoring of Civil & Maritime Structures (HEAMES2), Glasgow, U.K., May 23-24, 2019 (Keynote Lecture).  
Asia Pacific Pipeline Conference 2019 (APPC2019), Qingdao, Shandong, China, May 15-19, 2019 (Keynote Lecture).  
Huangdao Academician Lecture 2019, China University of Petroleum, Qingdao, Shandong, China, May 16, 2019.  
IABSE Symposium "Towards a Resilient Built Environment – Risk and Asset Management", Guimarães, Portugal, March 27-29, 2019 (Keynote Lecture with M. Akiyama).  
IABMAS Japan-China Workshop on Bridge Management Innovation, Osaka, Japan, March 16-20, 2019 (Keynote Lecture).

#### 2018

Korean Institute of Bridge and Structural Engineers (KIBSE) Conference, Seoul, South Korea, November 16, 2018 (Keynote Lecture).  
Research Institute for Sustainable Urban Development (RIUSD), The Hong Kong Polytechnic University, November 13, 2018 (Distinguished Lecture).  
Eighth International Symposium on Earthquake Engineering for Lifeline and Critical Infrastructure Systems, Shenyang, Liaoning, China, October 17-19, 2018 (Keynote Lecture).  
16th International Probabilistic Workshop, Vienna, Austria, September 12-14, 2018 (Keynote Lecture).  
20th International Ship and Offshore Structures Congress (ISSC 2018, PDF), Liège (Belgium) and Amsterdam (The Netherlands), September 9-13, 2018 (Official Discussor on Structural Longevity).  
Ninth International Conference on Bridge Maintenance, Safety and Management (IABMAS 2018), Melbourne, Australia, July 9-13, 2018 (Keynote Lecture with M. Akiyama).  
The 2018 Thomas C. Kavanagh Annual Memorial Structural Engineering Lecture, Pennsylvania State University, University Park, Pennsylvania, April 2018 (Annual Memorial Lecture).

#### 2017

International Symposium on Life-Cycle Engineering and Sustainability of Infrastructure (ISLESI 2017), Taipei, Taiwan, November 9-11,

2017 (Keynote Lecture).  
 RISUD Distinguished Lecture, The Hong Kong Polytechnic University, (Announcement), Research Institute for Sustainable Urban Development, Hong Kong, November 7, 2017 (Distinguished Lecture).  
 Ninth International Symposium on Steel Structures (ISSS 2017), Jeju, Korea, November 2-3, 2017 (Keynote Lecture).  
 Second International Bridge Congress - Design, Construction and Maintenance (CIPCH 2017), Santiago, Chile, October 18-20, 2017 (Keynote Lecture).  
 RISUD Annual International Symposium on New Frontiers in Urban Development (RAIS 2017), Hong Kong, China, August 24-25, 2017 (Keynote Paper).  
 International Conference on Structural Integrity and Durability (ICSID 2017), Dubrovnik, Croatia, August 14-18, 2017 (Plenary Lecture).  
 Sixth International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN 2017) and Second International Conference on Uncertainty Quantification in Computational Science and Engineering (UNCECOMP 2017), Rhodes Island, Greece, June 15-17, 2017 (General Plenary Lecture).  
 Engineering Mechanics Institute Conference (EMI 2017), San Diego, California, USA, June 4-7, 2017 (Keynote Lecture).  
 Joint Committee on Structural Safety (JCSS) – China Researchers Joint Workshop on Reliability-based Design of Engineering Structures and Systems (JC-RBD2017), Shanghai, China, May 16-17, 2017 (Keynote Lecture).  
 International Symposium on Long-life Security of Major Structures in Transportation Infrastructure, Qihe, Shandong, China, April 14-16, 2017 (Plenary Lecture).  
 International Workshop on the Value of Structural Health Monitoring for the Reliable Bridge Management (Joint Workshop by COST TU 1402, COST TU 1406, and IABSE WC1), Zagreb, Croatia, March 2-3, 2017 (Keynote Lecture).

#### 2016

International Symposium on Sustainability and Resiliency of Infrastructure (ISSRI 2016), Taipei, Taiwan, November 9-12, 2016 (Keynote Lecture).  
 Fifth International Symposium on Reliability Engineering and Risk Management (ISRERM 2016), Seoul, Korea, August 17-20, 2016 (Keynote Lecture).  
 The T. Y. Lin Plenary Lecture, Eighth International Conference on Bridge Maintenance and Safety (IABMAS2016), Foz do Iguacu, Paraná, Brazil, June 26-30, 2016 (Plenary Lecture).  
 Inaugural Ceremony of the International Joint Research Center for Engineering Reliability and Stochastic Mechanics (CERSM) & International Workshop on Engineering Reliability and Stochastic Mechanics (IWERSM 2016), Shanghai, China, May 31, 2016 (Keynote Lecture with M. Akiyama).  
 Sixth Asian-Pacific Symposium on Structural Reliability and its Applications (APSSRA 2016), Shanghai, China, May 28-30, 2016 (Invited Paper).  
 Lectio Magistralis– “Life-Cycle Civil Engineering: Accomplishments and Challenges,” Lecture of Acceptance of Honorary Doctoral Degree (Laurea ad Honorem) at Polytechnic University of Milan (Politecnico di Milano), Milan, Italy, April 11, 2016.

#### 2015

Second International Symposium on Life-Cycle Performance of Bridges and Structures (ISLPBS), Changsha, China, December 18-20, 2015 (Keynote Lecture).  
 Second International Conference on Performance-based and Life-cycle Structural Engineering (PLSE 2015), Brisbane, Australia, December 9-11, 2015 (Keynote Lecture).  
 International Symposium on Reliability of Engineering Systems (ISRES2015), Taipei, Taiwan, October 21-24, 2015 (Keynote Lecture).  
 International Symposium on Reliability of Engineering Systems (ISRES2015), Zhejiang University, Hangzhou, China, October 15-17, 2015 (Keynote Lecture).  
 Erza’s Round Table/Systems Engineering, Cornell University, September 18, 2015 (Invited Lecture).  
 Fourth International Conference on Soft Computing Technology in Civil, Structural and Environmental Engineering (CSC2015), Prague, Czech Republic, September 1-4, 2015 (Opening Plenary Lecture).  
 Japan Society of Civil Engineers, Technical Committee Reliability-Bases Assessment of Existing Infrastructure, Tokyo, Japan, June 12, 2015 (Keynote Lecture).  
 First Workshop of the IABMAS-Japan Group, Tokyo, Japan, June 11, 2015 (Keynote Lecture).  
 International Conference on Recent Advances in Rehabilitation and Sustainability of Structures (REHAB Structures 2015), Ponta Delgada, Portugal, June 1-2, 2015 (Opening Plenary Lecture).  
 Third National Symposium on Bridge Maintenance and Safety, Xi’an, China, May 16-17, 2015 (Keynote Lecture).  
 Third International Symposium on Sustainable Bridge Design, Construction and Maintenance (ISSBDCM-2015), Xi’an, China, May 14-15, 2015 (Keynote Lecture).  
 Second International Conference on Sustainable Urbanization (ICSU 2015), Hong Kong, January 7-9, 2015 (Keynote Lecture).

#### 2014

International Workshop on Sustainability and Resilience of Infrastructures Based on Maintenance and Management, JSCE 100th Anniversary Celebration, Tokyo, Japan, November 20, 2014 (Keynote Lecture).  
 The Fazlur R. Khan Plenary Lecture, Fourth International Symposium on Life-Cycle Civil Engineering (IALCCE 2014), Tokyo, Japan, November 16-19, 2014.  
 Ninth Austroads Bridge Conference (ABC 2014), Sydney, Australia, October 22-24, 2014 (Opening Plenary Lecture).  
 Thirty Seventh IABSE Symposium (IABSE - Madrid 2014), Madrid, Spain, September 2-5, 2014 (Keynote Lecture).  
 First International Conference on Infrastructure Failures and Consequences (ICIFC 2014), Melbourne, Australia, July 16-20, 2014 (Keynote Lecture).  
 International Conference on Sustainable Development of Critical Infrastructure (IC-SDCI-2014), First Joint International Conference sponsored by both China Civil Engineering Society (CCES) and American Society of Civil Engineers (ASCE), Shanghai,

China, May 16-18, 2014 (Keynote Lecture).  
RIUSD Research Salon Lecture, Research Institute for Sustainable Urban Development (RIUSD), The Hong Kong Polytechnic University, Hong Kong, March 5, 2014 (Invited Lecture).  
FCE Public Lecture, Faculty of Construction and Environment (FCE), The Hong Kong Polytechnic University, Hong Kong, March 4, 2014 (Public Lecture).

#### 2013

Asia-Pacific Conference on FRP in Structures (APFIS2013), Melbourne, Australia, December 11-13, 2013 (Keynote Lecture).  
Sixth International Conference on Structural Health Monitoring of Intelligent Infrastructure, Hong Kong, China, December 9-11, 2013 (Keynote Lecture).  
Eleventh International Probabilistic Workshop (IPW11), Brno, Czech Republic, November 6-8, 2013 (Plenary Lecture).  
Fifty Fifth Congress of the Brazilian Concrete Institute (IBRACON2013), Third Symposium on Subway, Railway and Highway Infrastructure, Gramado, Rio Grande do Sul, Brazil, October 29 – November 1, 2013 (Keynote Lecture).  
Third International Conference on Soft Computing Technology on Civil, Structural and Environmental Engineering (CSC2013), Cagliari, Sardinia, Italy, September 3-6, 2013 (Review Lecture).  
Eleventh International Conference on Structural Safety and Reliability (ICOSSAR2013), New York, USA, June 16-20, 2013 (Co-author of a Keynote Paper presented by M. Akiyama).  
FCE Distinguished Lecture, Faculty of Construction and Environment (FCE), The Hong Kong Polytechnic University, Research Institute for Sustainable Urban Development, Hong Kong, June 13, 2013 (Distinguished Lecture).  
Cyprus University of Technology, Department of Civil and Environmental Engineering, Limassol, Cyprus, May 29, 2013 (Invited Lecture).  
Vienna University of Technology, Doctoral Program on Water Resource Systems, Vienna, Austria, May 16, 2013 (Two Invited Lectures).  
The Inaugural Lecture in the Life-Cycle Lecture Series at the University of Natural Resources and Applied Life Sciences, BOKU, Vienna, Austria, May 15, 2013 (Inaugural Lecture).  
The 23<sup>rd</sup> Dresden Bridge Symposium, Dresden, Germany, March 12, 2013 (Plenary Lecture).  
Pacific-Rim Workshop on Innovations in Civil Infrastructure Engineering, Taipei, Taiwan, January 9-11, 2013 (Keynote Lecture).

#### 2012

First International Conference on Performance-Based and Life-Cycle Structural Engineering (PLSE 2012), Hong Kong, China, December 5-7, 2012 (Plenary Keynote Lecture).  
*The Warren Lecture*, Department of Civil and Environmental Engineering, University of Minnesota, Minneapolis, Minnesota, November 9, 2012 (Invited Lecture).  
Sixth SmartEN Marie Curie ITN Network Meeting and Multi-Disciplinary Workshop, Imperial College, London, October 8-10, 2012 (Invited Lecture).  
Third International Symposium on Life-Cycle Civil Engineering (IALCCE 2012), Vienna, Austria, October 3-6, 2012 (Co-author of a Keynote Paper presented by M. Akiyama).  
International Symposium on Reliability Engineering and Risk Management (ISRERM'2012), Yokohama, Japan, August 5-8, 2012 (Plenary Lecture).  
Fifth Asian-Pacific Symposium on Structural Reliability and its Applications (APSSRA2012), Singapore, May 23-25, 2012 (Plenary Opening Address).  
First National Conference on Bridge Maintenance and Safety, Shanghai, China, April 13, 2012 (Plenary Keynote Lecture).  
*The Wenyuan Lecture*, College of Civil Engineering, Tongji University, Shanghai, China, April 12, 2012 (Special Lecture).

#### 2011

Ninth International Probabilistic Workshop, Braunschweig, Germany, November 17-18, 2011 (Plenary Keynote Lecture).  
Fifty Third Congress of the Brazilian Concrete Institute (IBRACON 2011), Florianopolis, Santa Catarina, Brazil, November 1-4, 2011 (Plenary Keynote Lecture).  
Second National Conference on Bridge Safety and Maintenance (ACSP2011), Coimbra, Portugal, June 29–July 1, 2011 (Plenary Keynote Lecture).  
Third International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN2011), ECCOMAS Thematic Conference, Corfu, Greece, May 25-28, 2011 (Keynote Lecture).  
International Conference on Sustainability of Constructions: Integrated Approach to Lifetime Structural Engineering (COST Action C25), Innsbruck, Austria, February 3-5, 2011 (Plenary Keynote Lecture).

#### 2010

Second International Symposium on Life-Cycle Civil Engineering (IALCCE2010), Taipei, Taiwan, October 27-31, 2010 (Plenary Keynote Lecture).  
International Symposium on Reliability Engineering and Risk Management (ISRERM2010), Shanghai, China, September 23-26, 2010 (Plenary Keynote Lecture).  
Fourth International Conference on Structural Engineering, Mechanics and Computation (SEMC2010), Cape Town, South Africa, September 6-8, 2010 (Plenary Keynote Lecture).  
Symposium & Workshop on NDT/NDE Technologies For Condition Assessment of Highways and Bridges (ASNT-SMT2010), New

York, NY, USA, August 16-20, 2010 (Invited Lecture).  
Fifth Civil Engineering Conference in the Asian Region (CECAR5), Forum on Life-Cycle Cost and Performance Engineering, Sydney, Australia, August 8-12, 2010 (Invited Lecture).  
National Institute of Standards and Technology (NIST) Workshop on Quantitative Tools for Condition Assessment of Aging Infrastructure, Boulder, Colorado, May 4-5, 2010 (Keynote Lecture).

#### 2009

Fourth International Symposium on Lifetime Engineering of Civil Infrastructure (ISLECI2009), Changsha, Hunan, China, October 26-28, 2009 (Keynote Lecture).  
International ECCE Conference, EUROINFRA2009, Current State and Challenges for Sustainable Development of Infrastructure, Helsinki, Finland, October 14-15, 2009 (Plenary Keynote Lecture).  
Tenth International Conference on Structural Safety and Reliability (ICOSSAR2009), Osaka, Japan, September 13-17, 2009 (Plenary Keynote Lecture).  
International Conference on Civil, Structural and Environmental Engineering Computing and The First International Conference on Soft Computing in Civil, Structural and Environmental Engineering, Funchal, Madeira, Portugal, September 1-4, 2009 (Opening Plenary Keynote Lecture for two conferences that are held simultaneously).  
Second International Conference on Computational Methods in Structural Dynamics and Earthquake Engineering (COMPDYN 2009), Rhodes, Greece, June 22-24, 2009 (Plenary Keynote Lecture).  
Munich Bridge Assessment Conference (MBAC2009), Munich, Germany, May 27-29, 2009 (Plenary Keynote Lecture).  
International Symposium on Sustainability of Constructions: Integrated Approach to Lifetime Structural Engineering, Naples, Italy, May 11-12, 2009 (Plenary Keynote Lecture).  
International Conference on Safety and Durability of Materials and Constructions (SEDUREC 2009), Barcelona, Spain, February 25-27, 2009 (Special Lecture).

#### 2008

Sixth International Probabilistic Workshop, Darmstadt, Germany, November 26-27, 2008 (Plenary Keynote Lecture).  
International Workshop on Frontier Technologies for Infrastructures Engineering, Taipei, Taiwan, October 23-25, 2008 (Invited Lecture).  
Ninth International Conference on Computational Structures Technology, Athens, Greece, September 2-5, 2008 (Special Lecture).  
Fourteenth International Working Conference on Reliability and Optimization of Structural Systems (IFIP WG 7.5), Toluca, Mexico, August 6-9, 2008 (Keynote Lecture).  
First International Symposium on Life-Cycle Civil Engineering, Varenna, Lake Como, Italy, June 11-14, 2008 (Keynote Paper).

#### 2007

Third International Conference on Lifetime Oriented Design Concepts, Bochum, Germany, November 12-14, 2007 (Keynote Lecture).  
International Workshop on Computing in Civil Engineering, ASCE, Pittsburg, PA, USA, July 25-28, 2007 (Keynote Lecture).  
International Symposium on Integrated Life-Cycle Design and Maintenance, Shanghai, China, May 16-18, 2007 (Keynote Lecture).

#### 2006

Eighth International Conference on Computational Structures Technology, Las Palmas de Gran Canaria, Spain, September 12-15, 2006 (Special Lecture).  
International Conference on Asset Management for Roads and Highways, Melbourne, Australia, June 27-28, 2006 (Keynote Lecture).  
International Workshop on Life Cycle Assessment of Structures via Innovative Monitoring, Braunschweig, Germany, June 8-9, 2006 (Keynote Lecture).  
International Conference on Advances in Engineering Structures, Mechanics and Construction, Waterloo, Ontario, Canada, May 14-17, 2006 (Plenary Lecture).

#### 2005

Third Probabilistic Workshop on Technical Systems and Natural Hazards, Vienna, Austria, November 24-25, 2005 (Keynote Lecture).  
International Workshop on Lifetime Engineering of Civil Infrastructure, Yamaguchi University, Ube, Yamaguchi, Japan, November 9-11, 2005 (Keynote Lecture).  
Third International Symposium on Life-Cycle Science and Engineering, Kansai University, Osaka, Japan, October 24-25, 2005 (Keynote Lecture).  
Twenty Second International Federation for Information Processing Conference on System Modeling and Optimization, Turin, Italy, July 18-22, 2005 (Plenary Lecture).  
Fifth International Conference on Bridge Management, Guildford, Surrey, U.K., April 11-13, 2005 (Keynote Lecture).

#### 2004

International Workshop on Integrated Life-Cycle Management of Infrastructures, Hong Kong, China, December 9-11, 2004 (Keynote Lecture).  
Second International Workshop on Structural Health Monitoring of Innovative Civil Engineering Structures, Winnipeg, Manitoba, Canada, September 22-23, 2004 (Keynote Lecture).

Seventh International Conference on Computational Structures Technology, Lisbon, Portugal, September 7-9, 2004 (Special Lecture).  
Asian-Pacific Symposium on Structural Reliability and its Applications, APPSRA'04, Seoul, Korea, August, 19-20 2004 (Keynote Lecture).

International Workshop on Life-Cycle Cost Analysis for Bridges, Seoul, Korea, August 18, 2004 (Keynote Lecture).

Second International ASRANet Colloquium on Integrating Structural Reliability Analysis with Advanced Structural Analysis, Barcelona, Spain, July 5-7, 2004 (Keynote Lecture).

Second International Conference on Lifetime Oriented Design Concepts, Bochum, Germany, March 1-3, 2004 (Keynote Lecture).

#### 2003

International Conference on Life-Cycle Management of Civil Infrastructures, Taipei, Taiwan, November 27-29, 2003 (Keynote Lecture).

First International Conference on Structural Health Monitoring and Intelligent Infrastructure, SHMII-1, Tokyo, Japan, November 13-15, 2003 (Keynote Lecture for Special Theme).

Second International Structural Engineering and Construction Conference, ISEC'02, Rome, Italy, September 23-26, 2003 (Keynote Lecture).

Fourth International Workshop on Structural Health Monitoring, Stanford University, Stanford, California, September 15-17, 2003 (Keynote Lecture).

Second M.I.T. Conference on Computational Fluid and Solid Mechanics, Massachusetts Institute of Technology, Cambridge, Massachusetts, USA, June 12-15, 2003 (Keynote Lecture).

Eighth International Conference on Computer Aided Optimum Design of Structures, OPTI 2003, Detroit, Michigan, USA, May 19-21, 2003 (Keynote Lecture).

Third International Workshop on Life-Cycle Cost Analysis and Design of Civil Infrastructure Systems and *fib-JCCS* Workshop on Probabilistic Modeling of Deterioration Processes in Concrete Structures, Lausanne, Switzerland, March 24-26, 2003 (Keynote Lecture).

#### 2002

Third International Seminar for Safety of Infrastructure, Seoul, Korea, February 21, 2003 (Keynote Lecture at the Opening Ceremony).

Third European Conference on Steel Structures, EUROSTEEL 2002, Coimbra, Portugal, September 19-20, 2002 (Keynote Lecture).

International Colloquium ASRANet on Integrating Structural Reliability Analysis and Advanced Structural Analysis, Glasgow, Scotland, July 8-10, 2002 (Keynote Lecture).

#### 2001

Second International Workshop on Life-Cycle Cost Analysis and Design of Civil Infrastructure Systems, Ube, Yamaguchi, Japan, September 27-29, 2001 (Keynote Lecture).

Ninth International Conference on Structural Faults & Repair, London, England, July 4-6, 2001 (Keynote Lecture).

First M.I.T. Conference on Computational Fluid and Solid Mechanics, Massachusetts Institute of Technology, Cambridge, Massachusetts, USA, June 12-15, 2001 (Keynote Lecture).

Second International Conference on Current and Future Trends in Bridge Design, Construction, and Maintenance, Kowloon, Hong Kong, April 25-26, 2001 (Plenary Lecture).

#### 2000

Fourth Japan Conference on Structural Safety and Reliability, JCOSSAR 2000, Tokyo, Japan, November 6-8, 2000 (Keynote Lecture).

International Workshop on Optimal Maintenance of Structures, Delft, The Netherlands, October 4-6, 2000 (Keynote Lecture).

Fifth International Conference on Computational Structures Technology, Leuven, Belgium, September 6-8, 2000 (Special Lecture).

First U.S. - Japan Workshop on Life-Cycle Cost Analysis and Design of Civil Infrastructure Systems, Honolulu, Hawaii, USA, August 7-8, 2000 (Keynote Lecture).

SPIE's Fifth International Symposium on Nondestructive Evaluation and Health Monitoring of Aging Infrastructure, Newport Beach, California, USA, March 5-9, 2000 (Keynote Address).

#### 1999

Twenty First World Road Congress, Kuala Lumpur, Malaysia, October 6-9, 1999 (Keynote Lecture).

First International Conference on Current and Future Trends in Bridge Design, Construction, and Maintenance, Singapore, October 4-5, 1999 (Plenary Lecture).

Eighth International Conference on Structural Faults & Repair, London, England, July 13-15, 1999 (Keynote Lecture).

#### 1998

Symposium on Highway Management, The Institution of Civil Engineers, London, England, June 20-22, 1998 (Invited Lecture).

Eighth International Federation for Information Processing (IFIP WG7.5) Conference on Reliability and Optimization of Structural Systems, Krakow, Poland, May 11-13, 1998 (Keynote Lecture).

#### 1997

Science and Technology Forum'97, Takamatsu, Japan, November 21, 1997 (Keynote Lecture).

NSF/CERF Workshop on Industry/University Innovation, Arlington, Virginia, October, 1997 (Invited Lecture).  
International Conference on Computing in Civil and Building Engineering, ICCCBE-VII, Seoul, Korea, August 19-21, 1997 (Invited Lecture).  
International Conference on Safety and Reliability, European Safety and Reliability Association, ESREL'97, Lisbon, Portugal, June 17-20, 1997 (Keynote Lecture).

*Before 1997*

U.S.-European Workshop on Bridge Engineering, Barcelona, Spain, July 15-17, 1996 (Keynote Lecture).  
Symposium on the Safety of Bridges, The Institution of Civil Engineers, London, England, July 4-5, 1996 (Invited Lecture).  
Asian - Pacific Symposium on Structural Reliability and its Applications, (APPSRA'95), Tokyo, Japan, November 12-14, 1995 (Invited Lecture).  
Fourth International Federation for Information Processing (IFIP WG 7.5) Conference on Reliability and Optimization of Structural Systems, Munich, Germany, September 11-13, 1991 (Keynote Lecture).  
International Symposium on Reliability-Based Design in Civil Engineering, Lausanne, Switzerland, July 7-9, 1988 (Special Lecture).

## **9. RECOGNITION**

### **9.1 President of International Associations and Chair of Professional National and International Boards and Committees**

Founding President of the International Association for Bridge Maintenance and Safety (IABMAS, over 2300 individual and collective members from 77 countries, 15 national groups including Australia, Brazil, Canada, Chile, China, Denmark, Italy, Japan, Korea, Portugal, Spain, Sri Lanka, Sweden, Turkey, and USA), 1999-present.  
Founding President of the International Association for Life-Cycle Civil Engineering (IALCCE, over 800 individual and collective members from over 65 countries, Dutch national group), 2006-present.  
Founding Vice-President of the International Society for Structural Health Monitoring of Intelligent Infrastructure (ISHMII), 2004-2012.  
Vice-President of the Engineering Mechanics Institute (EMI) of the American Society of Civil Engineers (ASCE), 2014-2015.  
Vice-President of the International Association for Structural Safety and Reliability (IASSAR), 2013-2017.  
Chair, Executive Board of the International Association for Structural Safety and Reliability (IASSAR), 2006-2013.  
Chair, International Awards Committee, Twelve International Conference on Structural Safety and Reliability, ICOSSAR2017, Vienna, Austria, August 6-10, 2017.  
Governor of the Engineering Mechanics Institute, ASCE Presidential Appointee, 2013-2015.  
Founding and Inaugural Chair, ASCE-SEI Technical Council on Life-Cycle Performance, Safety, Reliability and Risk of Structural Systems, 2008 - present.  
Chair, Executive Board of the International Association for Life-Cycle Civil Engineering (IALCCE), 2006-present.  
Chair, Executive Committee of the International Association for Bridge Maintenance and Safety (IABMAS), 1999- present.  
Founding Chair, Technical Committee 4 on Life-Cycle Performance, Cost and Optimization, International Association for Structural Safety and Reliability (IASSAR), 2012 - present.  
Chair, International Working Group on Reliability and Optimization of Structural Systems of International Association for Information Processing (IFIP), 2004-2007.  
Chair, Working Commission 1 on Structural Performance, Safety and Analysis of International Association for Bridge and Structural Engineering (IABSE), 2005-2009.  
Chair, Executive Committee of the ASCE Structural Engineering Institute, Technical Activities Division, 1999-2000.  
Chair, Awards Committee of the ASCE Structural Engineering Institute, Technical Activities Division, 2004-2005.  
Chair, ASCE Committee on Safety of Bridges, 1995-1997.  
Chair, ASCE Committee on Optimal Structural Design, 1994 -1998.  
Chair, ASCE Committee on Safety of Buildings, 1990-1994.  
Chair, ACI Subcommittee on Existing Structures of Committee 348 on Structural Safety, 1989-1992.  
Chair, TRB Subcommittee AFF20 (1) on Methods of Analyzing Steel Bridges, 1999-2007.  
Chair, ASCE Administrative Committee on Structural Safety and Reliability, 2006-2008.

### **9.2 Head or Member of the U.S. Delegation, or Participant at National and International Workshops, Symposia and Conferences**

(ASCE, ASNT, FHWA, IABMAS, IALCCE, JSCE, NAVFAC, NATO, NIST, NSF, ONR, USNA, TRB, Dutch Ministry of Transport, Japan Ministry of Education, Hong Kong Polytechnic University).  
Fifth International Workshop on Capacity Assessment of Corroded Reinforced Concrete Structures (CACRCS2025), Lecco, Italy, June 30-July 3, 2025;  
IALCCE Workshop on Life-Cycle Management (LCM2024), Forteiland Ijmuiden, The Netherlands, October 6-8, 2024 (Co-chair);  
Japan-Romania Workshop on Seismic Rehabilitation and Maintenance of Buildings and Bridges, Bucharest, Romania, May 27, 2024;  
International Probabilistic Workshop, Guimarães, Portugal, May 8-10, 2024;  
NAVFAC-USNA Workshop on Resilience of Navy Waterfront Facilities in a Changing Climate, Part II: Resilience Planning and Climate Adaptation (by invitation only), ASCE Headquarters, Reston, Virginia, April 23-24, 2024;  
Workshop on Climate-resilient Coastal Cities, The Hong Kong Polytechnic University, Hong Kong, China, April 11, 2024;  
NAVFAC-USNA Workshop on Resilience of Navy Waterfront Facilities in a Changing Climate, Part I: Extreme Winds Speeds, Sea Level Rise, and Flood Loading on Waterfront Facilities (by invitation only), US Naval Academy, Annapolis, MD, September 19-20, 2023;  
Fourth International Workshop on Capacity Assessment of Corroded Reinforced Concrete Structures (CACRCS2023), Parma, Italy,

September 12-15, 2023;

Sixth International Workshop on Seawater Sea-sand Concrete (SSC) Structures Reinforced with FRP Composites, Hong Kong, China, February 25-26, 2023;

Third Multi-hazard Risk and Resilience Workshop, Western University, London, Ontario, Canada, November 3-4, 2022;

ASCE International Workshop on Effect of Climate Change on Life-Cycle Performance, Safety, Reliability and Risk of Structures and Infrastructure Systems, Reston, Virginia, September 30, 2022;

IABMAS Webinar on Bridge Load Testing, Organized by IABMAS-USA Group, April 7, 2021;

FHWA Workshop on Redundancy in Bridges for Risk Mitigation in a Multi-Hazard Environment, Virtual Workshop and by Invitation Only, Washington, D.C., USA, July 21-28, 2020 (Keynote Lecture);

TRB Workshop on Introducing the Bridge Load Testing E-Circular, Transportation Research Board 99<sup>th</sup> Annual Meeting, Washington, D.C., January 12, 2020;

IALCCE Workshop on Life-Cycle Management (LCM2019), Rotterdam, Netherlands, October 27-29, 2019;

Second National Conference on Wind Engineering (2NCWE), Bucharest, Romania, June 6-7, 2019;

IABMAS Japan-China Workshop on Bridge Maintenance and Safety, Osaka, Japan, March 16-20, 2019;

Second International Workshop on Seawater Sea-Sand Concrete (SSC) Structures Reinforced with FRP Composites, The Hong Kong Polytechnic University, Hong Kong, China, December 1-2, 2018;

ASCE International Workshop on Life-Cycle Performance of Civil Structure and Infrastructure Systems, ASCE Headquarters, Reston, VA, November 10, 2015 (Co-Chair);

IABMAS-Italy Workshop on Bridge Inspection, Maintenance, Safety and Management, IABMAS Italian Group, Padova, Italy, December 15-16, 2014;

JSCE Workshop on Sustainability and Resilience of Infrastructures Based on Maintenance and Management, Japan Society of Civil Engineers 100th Anniversary Celebration, Tokyo, Japan, November 20, 2014;

ASCE/SEI Workshop on Risk-Based Methods for the Design of Structure and Infrastructure Systems, ASCE Headquarters, Reston, Virginia, September 17, 2014;

NDE/NDT for Highways and Bridges ASNT Workshop on Leveraging Advanced Technology in Bridge Management, New York, New York, August 16-20, 2010;

NIST Workshop on Quantitative Tools for Condition Assessment of Aging Infrastructure, Boulder, Colorado, May 4-5, 2010;

ONR Workshop on SHM for Ship Hull and Structural Components, Arlington, Virginia, July 22, 2009;

NSF Workshop on Uncertainty Quantification for Complex Interacting Systems, Los Angeles, CA, April 12-14, 2009;

Workshop on Optimal Bridge Maintenance Based on Risk and Reliability, Toluca, Mexico, August 11-13, 2008;

Korea - US Seminar on Smart Monitoring for Civil Bridge Structures, Korea Institute of Construction Technology, Gyeonggi-Do, South Korea, July 18, 2008;

International Workshop on Performance-Based Infrastructure Asset Management, Sponsored by NSF-FHWA-NIST and Turkish, European, Canadian, and Japanese Agencies, Istanbul, Turkey, July 7-9, 2008;

CIRIA Workshop on Infrastructure Guidance, London, U.K., March 5, 2008; ASCE-FHWA Workshop on Enhancing Bridge Performance, ASCE Headquarters, Reston, VA, February 21-22, 2008;

Workshop on Probabilistic Maintenance Modeling, Delft University of Technology, Delft, The Netherlands, December 3, 2007;

FHWA U.S.-Europe Workshop on Bridge Management Challenges in the United States and Europe, Zurich, Switzerland, September 11-13, 2007;

ASCE Workshop on Engineering Applications of Quantitative Risk Assessment, Fourth Civil Engineering Conference in the Asian Region (CECAR4), Taipei, Taiwan, June 25-27, 2007;

FHWA-NSF Workshop on Future Directions for Long-Term Performance (LTPB) Monitoring, Assessment and Management, January 9-10, 2007, Las Vegas, Nevada;

NSF-NIST Advanced Infrastructure Testbed Workshop, September 24-26, 2006, Washington, D.C.;

International NSF-Sponsored Workshop on Integrated Life-Cycle Management of Infrastructures, Hong Kong, China, December 9-11, 2004;

International NSF Workshop on Evaluating Bridge Reliability Following Natural and Man-Made Hazards in Real-Time, Kyoto, Japan, October 21, 2004;

NSF-FHWA Workshops on Advancing the States-of-the-Art and Practice of the Engineering and Management of Infrastructure Systems, Palo Alto, California, September 14, 2003, and Tokyo, Japan, November 12, 2003 (Workshops Co-Chair);

Workshop on Life-Cycle Cost of Civil Infrastructures, Delft, Netherlands, August 20, 2003;

Third IABMAS International Workshop on Life-Cycle Cost Analysis and Design of Civil Infrastructure Systems and fib-JCCS Workshop on Probabilistic Modeling of Deterioration Processes in Concrete Structures, Lausanne, Switzerland, March 24-26, 2003 (Workshop Co-Chair);

U.S. - Netherlands Meeting on Bridge Management, Washington D.C., January 12, 2003;

U.S. - Italy NSF Workshop on Bridge Design and Construction, Rome, Italy, July 18-20, 2002;

NSF Workshop on Model-Based Simulation of Durability of Materials and Structures, Prague, Czech Republic, July 4-6, 2002;

Second International Workshop on Life-Cycle Cost Analysis and Design of Civil Infrastructure Systems (Head of the U.S. delegation), September 27-29, 2001, Ube, Yamaguchi, Japan;

U.S. - U.K. Exchange Experience in Civil Infrastructures (Head of the U.S. NSF delegation), London, England, July 4-6, 2001;

NSF Workshop on Health Monitoring of Long Span Bridges, Irvine, California, U.S.A., March 9-10, 2001 (Invited Panelist);

International Workshop on Optimal Maintenance of Structures, Delft, Netherlands, October 4-6, 2000;

First U.S.-Japan Workshop on Life-Cycle Cost Analysis and Design of Civil Infrastructure Systems (Head of the U.S. delegation), August 7-8, 2000, Honolulu, Hawaii, U.S.A.;

U.S.-Romania Workshop on Information Processing for Damage Assessment in Structural Engineering, June 25-30, 1999, Iași, Romania;

U.S.-Japan Workshop/Seminar on Infrastructural and Environmental Risk Assessment and Rehabilitation, November 1997, Kyoto, Japan;

U.S.-Japan NSF Cooperative Earthquake Research Program on Composite and Hybrid Structures, 4th Joint Technical Coordinating Committee Meeting, Monterey, California, October 1997;

13th U.S.-Japan Bridge Engineering Workshop, September/October 1997, Tsukuba, Japan;



U.S.-Canada-Europe NSF Workshop on Bridge Engineering, Dubendorf and Zurich, Switzerland, July 1997;  
 International Conference on Structural Faults & Repair, Edinburgh, Scotland, July, 1997;  
 Second International Symposium on Civil Infrastructure Systems and Third Joint NSF Technical Coordinating Committee Meeting on Composite and Hybrid Structures, Hong Kong, December 1996;  
 12th U.S.-Japan Bridge Engineering Workshop, Buffalo, New York, October 1996;  
 U.S. - European NSF Workshop on Bridge Engineering, Barcelona, Spain, July 1996;  
 U.S. - Poland Workshop on Concrete Structures (Warsaw, Lodz, Krakow), June 1996;  
 The Fourth Pan American Congress of Applied Mechanics, Buenos Aires, Argentina, January 1995;  
 U.S. - East European NSF Bridge Conferences and Lab Tour (Hungary, Slovakia, Czech Republic and Poland), June 1994;  
 Eighth U.S. - Japan Bridge Engineering Workshop, Chicago, Illinois, May 1992;  
 First, second, and third International Workshops on Bridge Rehabilitation (Paris, France, June 1987; Baltimore, Maryland, May, 1990; Darmstadt, Germany, June 14-17, 1992);  
 First International Conference on Computational Stochastic Mechanics, Corfu, Greece, September 17-19, 1991.

### 9.3 Conferences, Symposia and Workshops Chaired and/or Organized

Co-Chair, Fifteenth International Conference on Bridge Maintenance, Safety and Management, IABMAS2030, Vienna, Austria, September 2030.  
 Co-Chair, Fourteenth International Conference on Bridge Maintenance, Safety and Management, IABMAS2028, Guangzhou, China, July 2028.  
 Co-Chair, Thirteenth International Conference on Bridge Maintenance, Safety and Management, IABMAS2026, Orlando, Florida, July 6-10, 2026.  
 Co-Chair, Ninth International Symposium on Life-Cycle Civil Engineering, IALCCE2025, Melbourne, Australia, July 15-19, 2025.  
 Chair, Steering Committee of the Eighth International Symposium on Life-Cycle Civil Engineering, IALCCE2025, Melbourne, Australia, July 15-19, 2025.  
 Co-Chair, Second IALCCE Workshop on Life Cycle Management (LCM2024), Forthland IJmuiden, The Netherlands, October 6-8, 2024.  
 Co-Chair, Twelfth International Conference on Bridge Maintenance, Safety and Management, IABMAS2024, Copenhagen, Denmark, June 24-28, 2024.  
 Co-Chair, IABMAS Symposium, Organized by the IABMAS Sri Lanka Group, Kandy, Sri Lanka, December 15-17, 2023.  
 Co-Chair, Eighth International Symposium on Life-Cycle Civil Engineering, IALCCE2023, Milan, Italy, July 2-6, 2023.  
 Chair, Steering Committee of the Eighth International Symposium on Life-Cycle Civil Engineering, IALCCE2023, Milan, Italy, July 2-6, 2023.  
 Co-Chair, Steering Committee of the International Symposium on Emerging Developments and Innovative Applications of Reliability Engineering and Risk Managements (EDIARR2021), Taipei, Taiwan, October 30 - November 3, 2022.  
 Co-Chair, Eleventh International Conference on Bridge Maintenance, Safety and Management, IABMAS2022, Barcelona, Spain, July 11-15, 2022.  
 Co-Chair, Tenth International Conference on Bridge Maintenance, Safety and Management, IABMAS2020, Sapporo, Japan, April 11-15, 2021.  
 Co-Chair, Seventh International Symposium on Life-Cycle Civil Engineering, IALCCE2020, Shanghai, China, October 27-30, 2020.  
 Chair, Steering Committee of the Seventh International Symposium on Life-Cycle Civil Engineering, IALCCE2020, Shanghai, China, October 27-30, 2020.  
 Co-Chair, International Scientific Committee of the International Symposium on Reliability of Multi-Disciplinary Engineering Systems under Uncertainty (ISREMS2019), Taipei, Taiwan, December 8-11, 2019.  
 Co-Chair, IALCCE Workshop on Life Cycle Management (LCM2019), Rotterdam, Netherlands, October 27-29, 2019.  
 Executive President, Asia Pacific Pipeline Conference 2019 (APPC 2019), Qingdao, China, May 15-19, 2019.  
 Honorary Chair, IABMAS Japan-China Workshop on Bridge Maintenance and Safety, Osaka, Japan, March 16-20, 2019.  
 Co-Chair, Sixth International Symposium on Life-Cycle Civil Engineering, IALCCE2018, Ghent, Belgium, October 28-31, 2018.  
 Chair, Steering Committee of the Sixth International Symposium on Life-Cycle Civil Engineering, IALCCE2018, Ghent, Belgium, October 28-31, 2018.  
 Co-Chair, Ninth International Conference on Bridge Maintenance, Safety and Management, IABMAS2018, Melbourne, Australia, July 9-13, 2018.  
 Co-Chair, Fifth International Symposium on Life-Cycle Civil Engineering, IALCCE2016, Delft, The Netherlands, October 16-19, 2016.  
 Chair, Steering Committee of the Fifth International Symposium on Life-Cycle Civil Engineering, IALCCE2016, Delft, The Netherlands, October 16-19, 2016.  
 Co-Chair, Eighth International Conference on Bridge Maintenance, Safety and Management, IABMAS2016, Foz do Iguaçu, Brazil, June 26-30, 2016.  
 Co-Chair, ASCE Workshop on Life-Cycle Performance of Civil Structures and Infrastructure Systems, ASCE Headquarters, Reston, VA, November 10, 2015.  
 Co-Chair, Fourth International Symposium on Life-Cycle Civil Engineering, IALCCE2014, Tokyo, Japan, November 16-19, 2014.  
 Chair, Steering Committee of the Fourth International Symposium on Life-Cycle Civil Engineering, IALCCE2014, Tokyo, Japan, November 16-19, 2014.  
 Co-Chair, Seventh International Conference on Bridge Maintenance, Safety, and Management, IABMAS2014, Shanghai, China, July 7-11, 2014.  
 Chair, International Scientific Committee, Eleventh International Conference on Structural Safety and Reliability, ICOSSAR2013, New York, NY, USA, June 16-20, 2013.  
 Co-Chair, Third International Symposium on Life-Cycle Civil Engineering, IALCCE2012, Vienna, Austria, October 3-6, 2012.  
 Chair, Steering Committee of the Third International Symposium on Life-Cycle Civil Engineering, IALCCE2012, Vienna, Austria, October 3-6, 2012.  
 Co-Chair, Sixth International Conference on Bridge Maintenance, Safety, and Management, IABMAS2012, Stresa, Lake Maggiore, Italy, July 8-12, 2012.

Co-Chair, Second International Symposium on Life-Cycle Civil Engineering, IALCCE2010, Taipei, Taiwan, October 27-31, 2010.

Co-Chair, Steering Committee of the Second International Symposium on Life-Cycle Civil Engineering, IALCCE2010, Taipei, Taiwan, October 27-31, 2010.

Co-Chair, Fifth International Conference on Bridge Maintenance, Safety, and Management, IABMAS2010, Philadelphia, Pennsylvania, USA, July 11-15, 2010.

Chair, Scientific Committee of the Tenth International Conference on Structural Safety and Reliability, ICOSSAR 2009, Osaka, Japan, September 13-17, 2009.

Co-Chair, Fourth International Conference on Bridge Maintenance, Safety, and Management, IABMAS'08, Seoul, Korea, July 13-17, 2008.

Co-Chair, First International Symposium on Life-Cycle Civil Engineering, IALCCE-08, Varenna, Lake Como, Italy, June 11-14, 2008.

Chair, Steering Committee of the First International Symposium on Life-Cycle Civil Engineering, IALCCE-08, Varenna, Lake Como, Italy, June 11-14, 2008.

Co-Organizer, Probabilistic Mechanics and Structural Reliability Symposium, Inaugural International Conference of the Engineering Mechanics Institute (EM08), Minneapolis, Minnesota, May 19-21, 2008.

Co-Chair, Fifth International Workshop on Life-Cycle Cost Analysis and Design of Civil Infrastructure Systems, Seoul, Korea, October 16-18, 2006.

Chair, Steering Committee, Fifth International Workshop on Life-Cycle Cost Analysis and Design of Civil Infrastructure Systems, Seoul, Korea, October 16-18, 2006.

Chair, International Technical Committee, Thirteenth IFIP TC7 WG 7.5 Working Conference on Reliability and Optimization of Structural Systems, Kobe, Japan, October 11-14, 2006.

Co-Chair, Third International Conference on Bridge Maintenance, Safety, and Management, IABMAS'06, Porto, Portugal, July 16-19, 2006.

Co-Chair, Third International Symposium on Life-Cycle Science and Engineering, Kansai University, Osaka, Japan, October 24-25, 2005.

Co-Chair, Fourth International Workshop on Life-Cycle Analysis and Design of Civil Infrastructure Systems, Cocoa Beach, Florida, USA, May 8-11, 2005.

Co-Chair, First International Symposium on Life-Cycle Science and Engineering, Osaka, Japan, October 22-23, 2004.

Co-Chair, Second International Conference on Bridge Maintenance, Safety, and Management, IABMAS'04, Kyoto, Japan, October 19-22, 2004.

Chair, International Scientific Committee, Asian-Pacific Symposium on Structural Safety and Reliability, APSSRA'04, Seoul, Korea, August 19-20, 2004.

Chair, International Workshop on Risk and Cost Evaluation of Civil Structures, Boulder, Colorado, May 10, 2004.

Co-Chair, NSF-FHWA Workshops on Advancing the States-of-the-Art and Practice of the Engineering and Management of Infrastructure Systems, Palo Alto, California, September 14, 2003, and Tokyo, Japan, November 12, 2003.

Co-Chair, Third IABMAS International Workshop on Life-Cycle Cost Analysis and Design of Civil Infrastructure Systems and *fib-JCCS* Workshop on Probabilistic Modeling of Deterioration Processes in Concrete Structures, Lausanne, Switzerland, March 24-26, 2003.

Co-Chair, First International Conference on Bridge Maintenance, Safety, and Management (IABMAS'02), Barcelona, Spain, July 14-17, 2002.

Co-Chair, IABSE Workshop on Management Strategy for Aging Highway Bridges, Melbourne, Australia, September 13, 2002.

Co-Chair, Second International Workshop on Life-Cycle Cost Analysis and Design of Civil Infrastructure Systems, Ube, Yamaguchi, Japan, September 27-29, 2001.

Chair, United States - United Kingdom NSF Workshop on Exchange Experience in Civil Infrastructures, London, England, July 3-7, 2001.

Co-Chair, First U.S.-Japan Workshop on Life-Cycle Cost Analysis and Design of Civil Infrastructure Systems, Honolulu, Hawaii, August 7-8, 2000.

Chair, NSF Workshop on Optimal Performance of Civil Infrastructure Systems, Portland, Oregon, April 12, 1997.

Chair, Technical Program Committee, Seventh ASCE Specialty Conference on Probabilistic Mechanics and Structural Reliability, Worcester, Massachusetts, August 7-9, 1996.

Chair, NSF Workshop on Structural Reliability in Bridge Engineering, Boulder, Colorado, October 2-4, 1996.

Chair, Seventh International Conference on Reliability and Optimization of Structural Systems, IFIP WG 7.5, Boulder, Colorado, April 2-4, 1996.

Chair, First U.S. - Japan Joint Seminar on Structural Optimization, Chicago, Illinois, April 13, 1996.

Chair, International Workshop on Research Needs for Applications of System Reliability Concepts and Techniques in Structural Analysis, Design and Optimization, Boulder, Colorado, September 12-14, 1988.

#### **9.4 External Expert for Venia Docendi and External Examining Committee Member for PhD Candidates**

External Expert for the Habilitation (Venia Docendi) Committee at the University of Natural Resources and Applied Life Sciences, Vienna, Austria, 2007 (Dr. Alfred Strauss).

Advisor, Co-Advisor or External Examining Committee Member for PhD Candidates at World Renowned Institutions: University of California, Los Angeles, 1991 (Dr. George Zorapapel); Swiss Federal Institute of Technology, Lausanne, Switzerland, 1991 (Dr. Milutin Stojanovic); University of Newcastle, Australia, 1993 (Dr. C. Q. Li); University of Waterloo, Canada, 1993 (Dr. Zoubir Lounis); Technical University of Catalonia, Barcelona, Spain, 1996 (Dr. Cesar Minguillon); Lulea University of Technology, Sweden, 1998 (Dr. Ireneusz Czmocho); University of Aalborg, Denmark, 2001 (Dr. Christian Frier); Swiss Federal Institute of Technology, Lausanne, Switzerland, 2001 (Dr. Aleksandar Radojicic); University of Minho, Guimaraes, Portugal, 2005 (Dr. Luis Neves); University of Surrey, Guildford, England, 2005 (Dr. M. I. Rafiq); Indian Institute of Technology, New Delhi, India, 2006 (Dr. Sandeep Chaudhary); University of Waterloo, Canada, 2007 (Dr. Hatem ElBehairy and Dr. Suresh V. Datla); Delft University of Technology, Delft, The Netherlands, 2007 (Dr. Maarten-Jan Kallen); University of Natural Resources and Applied Life Sciences, Vienna, Austria, 2008 (Co-Advisor of Dr. Simon Hoffmann); Université Paris-Est, Laboratoire Central des Ponts et Chaussées (LCPC), Paris, France, 2008 (Dr. Andre Orcesi); University of Pavia, Pavia, Italy, 2009 (Advisor of Dr. Thomas Messervey); Politecnico di Milan, Milan, Italy, 2010 (Dr. Alessio Caverzan, Dr. Raffaella Figini,

Dr. Paola Limonta, Dr. Roberta Stucchi); University of Natural Resources and Applied Life Sciences, Vienna, Austria, 2011 (Dr. Spyridis Panagiotis); University College Dublin, Ireland, 2014 (Dr. Cathal Leahy); Vienna University of Technology, Vienna, Austria, 2014 (Dr. Jan Podroužek); University of Belgrade, Belgrade, Serbia, 2015 (Dr. Nikola Tanasic); University of Auckland, Auckland, New Zealand, 2016 (Dr. Rhys Allan Rogers); University of Sao Paulo, Sao Paulo, Brazil, 2016 (Dr. Alberto C. Colombo); University of Colorado at Boulder, Colorado, USA, 2016 (Co-Advisor of Dr. Ali Harajli); Beijing Jiaotong University, Beijing, China, 2016 (Co-Advisor of Dr. Huile Li); The Hong Kong Polytechnic University, Hong Kong, China, 2017 (Co-Advisor of Dr. David Yang); University of Brasilia, Brazil, 2018 (Co-Advisor of Dr. Iviane Cunha e Santos); Hunan University, Hunan, China (Co-Advisor of Dr. Bing Tu); University of Natural Resources and Applied Life Sciences, Vienna, Austria, 2018 (Co-Advisor of Dr. Ivan Zambon and Dr. Anja Vidovic); Zhejiang University, Zhejiang, China, 2019 (Co-Advisor of Dr. Zhujun Wang); Hong Kong Polytechnic University, Hong Kong, 2019 (Dr. Hu Rongpan); University of Nottingham, England, 2021 (Dr. Gareth S. Calvert); University of Liège, Liège, Belgium, 2021 (Dr. Pablo Morato); University of Natural Resources and Applied Life Sciences, Vienna, Austria, 2021 (Co-Advisor of Dr. Fritz Binder) and 2024 (Reviewer/Co-Advisor of Dr. Lisa Ptacek); University of Pretoria, South Africa, 2024 (Glory N. Ngcobo).

## 9.5 Other Recognition

Academic Community Member of the State Key Laboratory on Resilient Coastal City Infrastructure under Climate Change (SKL-RICC), The Hong Kong Polytechnic University, Hong Kong, 2024-present.

Member of the Advisory Committee of the International Joint Research Center for Resilient Infrastructure (ICRI), Tongji University, China, 2023-present.

Member of the Expert Panel of the Bridge Designing Competition CONNECT, State Ministry of Rural Roads and other Infrastructure, Sri Lanka, 2021-23.

Chair of ASCE-SEI Working Group on Life-Cycle Risk-based Decision-Making, ASCE Special project on Effect of Climate Change on Life-Cycle Performance, Safety, Reliability and Risk of Structures and Infrastructure Systems, 2021-present.

Expert for the Fund for Scientific Research (FNRS) and the Research Foundation Flanders (FWO) to evaluate Excellence of Science (EOS) research proposals, 2021-present.

Member of the International Academic Steering Committee of the International Institute of Smart Structure Systems and Informatics (ISSI) at Zhejiang University, China, 2018-23.

Member of the Advisory Committee of the National Academies within TRB Committee to review FHWA R&D Long-Term Infrastructure Program (LTIP), 2017-20 (by invitation only).

Member of the Advisory Panel of project Sustainable Marine Infrastructure Enabled by the Innovative Use of Seawater Sea-Sand Concrete and Fiber-Reinforced Polymer Composites (Project Coordinator: Prof. Jin-Guang Teng), Research Grants Council (RGC), Hong Kong, 2019-23.

Official Discussor of Committee on Structural Longevity during the 20<sup>th</sup> International Ship and Offshore Structures Congress, Liège, Belgium & Amsterdam, The Netherlands, September 9-13, 2018 (by invitation only).

Member of the Leadership of the International Joint Research Center for Engineering Reliability and Stochastic Mechanics (JCERSM), Tongji University, China (2017-present).

Invited by the National Academies (Sciences, Engineering, and Medicine) to attend the workshop on “The Role of Advanced Technologies in Structural Engineering for More Resilient Communities,” Irvine, CA, September, 2017.

Member of the ASCE’s Industry Leaders Council to join the Council (The Industry Leaders Council engages senior leaders from industry, academia, government, and non-governmental organizations to identify tactical actions for ASCE and the civil engineering profession), 2016-present (by invitation only).

Invited by the Marine Board of the National Academies (Sciences, Engineering, and Medicine) as an Expert on Structural Health Monitoring (SHM) to attend the Expert Forum on SHM for providing expert opinions to the U.S. Army Corps of Engineers (USACE), Irvine, CA, May 2016.

External Assessor for the Central Fellowship Process in Trinity College, Dublin, Ireland, 2016 and 2017.

Member of the Expert Task Group (ETG) of the National Academies (NAS, NAE, NAM) for Review of the Long-Term Bridge Performance Program (LTBP) Special Activities (BSPEC), 2015-16.

Member of the External Panel to Review Candidates for Chair Professorships, Shanghai Jiao Tong University (SJTU), Shanghai, China, 2015.

Member of the Management Committee Observer Group (represented by an expert per continent) of the Transport and Urban Development COST Action TU1406 (Quality specifications for roadway bridges, standardization at a European level (Bridge Spec.), 2015-19.

Expert for the FHWA Long Term Bridge Performance Program: Bridge Health Index Project, Pennoni Associates, 2014-present.

Member of the International Advisory Committee of the Research Institute for Sustainable Urban Development (RISUD) of the Hong Kong Polytechnic University (PolyU), Hong Kong, 2013-present.

Member of the Advisory Committee of the National Academies (NAS, NAE, NAM) within NRC/TRB Expert Group for FHWA Long-Term Bridge Performance Program (LTBP), Bridge Traffic and Truck Weights (BT&T), 2012-15.

Member of the International Committee of Experts in Charge of the Research Assessment of the Royal Institute of Technology (The KTH 2012 Research Assessment Exercise, Panel 11), Stockholm, Sweden, June 11-15, 2012.

Member of the International Committee of Experts in Charge of Evaluating the Department of Civil, Environmental and Geomatic Engineering (D-BAUG) of the Swiss Federal Institute of Technology (ETH), Zurich, Switzerland, March 25-30, 2012.

Member of the Scientific Evaluation Panel of the Book Series on Safety & Durability of Construction Structures, Springer, Berlin, 2011.

Member of the International Committee of Experts for Assessing the Doctoral Degree at Universities of Excellence: Romanian Research Assessment Exercise involving six Universities (Bucharest, Timisoara, Iasi, Cluj, Brasov and Constanta), Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI), July-September, 2011.

Founding Chair, Technical Committee 4 on Life-Cycle Performance, Cost and Optimization, International Association for Structural Safety and Reliability (IASSAR), 2010-present.

Chair of the Project Advisory Panel (PAP) for the Strategic Planning Document of the Applied Technology Council (ATC) Project ATC-81 on Development of Industry Foundation Classes (IFCs) for Structural Concrete Components, January-December 2010.

Distinguished Scientist and Member of the International Advisory Board for the SmartEN Marie Curie ITN (Smart Management for Sustainable Human Environment) European Union Funded Project, coordinated by the Cyprus University of Technology, Limassol, Cyprus, 2009-13.

Board Member of the International Advisory Committee for the Taiwan Building Technology Center (TBTC) of the National Taiwan University of Science and Technology (NTUST) to supervise part of the research related to the project on Frontier Technologies for Enhancing the Reliability of Critical Infrastructures, 2009-10.

Dissertation Supervisor of the Ph. D. Student (Nader M. Okasha) who received the 2009 Nevada Medal for Distinguished Graduate Student Paper in Bridge Engineering, 2009.

Advisory Board Member for the Federal Highway Administration (FHWA) Long-Term Bridge Performance (LTBP) Program, 2008-2009.

Founder (2008) and Inaugural Chair of the ASCE-SEI Technical Council on Life-Cycle Performance, Safety, Reliability and Risk of Structural Systems, 2008-16.

Founder of the Computational Laboratory for Life-Cycle Structural Engineering, ATLSS Center, Lehigh University, 2007.

Initiator and Organizer of the Fazlur R. Khan Distinguished Lecture Series at Lehigh University, 2007-present.

Member of the Evaluation Committee for Establishing the Cyprus University of Technology, Limassol, Cyprus, 2007.

Member of the Project Advisory Panel to oversee the work that the Applied Technology Council (ATC) has to perform under contract to the Charles Pankow Foundation (CPF), to develop *Industry Foundation Classes (IFCs) for Structural Components*, ATC-75 project, September 2007 - September 2009.

Member of the FHWA Advisory Group on Bridge Health Monitoring, 2004-06.

Member of the Foreign Evaluation Committee, appointed by the Ministry of Education of Japan, of the Faculty of Engineering, Kagawa University, Japan, March 2002.

Member of the Advisory Board for Nevada Medal for Distinguished Paper in Bridge Engineering, 1999–2000

Member of the Steering Committee for Bridge Safety and Reliability, Highways Agency, London, U.K., 1996-99.

Member of Outstanding Paper Award Committee, International Association for Bridge and Structural Engineering, 1997-98.

Member of Special Panel for the Technical Committee on Computer Practice Award for Best Journal Paper published in the Journal of Computing in Civil Engineering, ASCE, 1991.

Member of Transportation Research Board (TRB) Panel, Federal Highway Administration (FHWA), National Cooperative Program (NCP), High Priority National Program Area (HPNPA) "Live Load Effects on Highway Bridges", FHWA NCP Project D1, 1988.

Member of Research Board of Advisors, American Biographical Institute, Inc., Raleigh, North Carolina, 1990-92.

Coordinator, Structural Engineering and Structural Mechanics (SESM) Faculty, Department of Civil, Environmental, and Architectural Engineering, University of Colorado, Boulder, Colorado, 1988-91.

Listed in: Who's Who in Computational Science and Engineering, 2003; Who's Who in Science and Engineering, 4th and 5th Editions, 1998-00; Who's Who in the World, 12th-18th Editions, 1995-00; Who's Who in the World, Millennium Edition, 2000; Who's Who in the West, 24th, 25th, and 26th Editions, 1994, 1996, 1998-99; Who's Who in American Education, 5th Edition, 1996-97, 6th Edition, 2004-05; 5,000 Personalities of the World, 7th Edition 1999; Men of Achievement, 15th and 16th Editions, 1992 and 1994; Personalities of America, Sixth Edition, 1992; American Men and Women of Science, 18<sup>th</sup> and 19<sup>th</sup> Editions, 1992-93 and 1995-96; International Directory of Distinguished Leadership, Third, Fourth, Fifth, and Ninth Editions, 1991, 1992, 1994, and 2000; Outstanding Young Men of America, 1984; Dictionary of International Biography, 23rd and 24th Editions, 1992 and 1995, and in several others.

## 10. EDITOR AND EDITORIAL BOARD MEMBER

### 10.1 Founding Editor-in-Chief of the International Journal Structure and Infrastructure Engineering

Founder and Editor-in-Chief, *STRUCTURE and INFRASTRUCTURE ENGINEERING: Maintenance, Management, Life-Cycle Design and Performance*, an international peer-reviewed journal, launched in 2005 and accepted in 2007 by Thomson ISI for inclusion in the Science Citation Index. Print ISSN 1573-2479, On Line ISSN 1744-8980, Taylor & Francis Ltd, 2005-present.

Vol. 1: 4 issues, 2005, 320 pages; Vol. 2: 4 issues, 2006, 320 pages; Vol. 3: 4 issues, 2007, 384 pages; Vol. 4: 6 issues, 2008, 480 pages; Vol. 5: 6 issues, 2009, 576 pages; Vol. 6: 6 issues, 2010, 792 pages; Vol. 7: 12 issues, 2011, 960 pages; Vol. 8: 12 issues, 2012, 1200 pages; Vol. 9: 12 issues, 2013, 1320 pages; Vol. 10: 12 issues, 2014, 1704 pages; Vol. 11: 12 issues, 2015, 1704 pages; Vol. 12: 12 issues, 2016, 1704 pages; Vol. 13: 12 issues, 2017, 1704 pages; Vol. 14: 12 issues, 2018, 1704 pages; Vol. 15: 12 issues, 2019, 1704 pages; Vol. 16: 12 issues, 2020, 1704 pages; Vol. 17: 12 issues, 2021, 1704 pages; Vol. 18: 12 issues, 2022, 1704 pages; Vol. 19: 12 issues, 2023, 1874 pages; Vol. 20: 12 issues, 2024 (in progress).

### 10.2 Founding Editor of the Book Series Structures and Infrastructures

Founder and Editor of the Book Series Editor, *Structures and Infrastructures*, Book Series ISSN 1747-7735 published by CRC Press, Balkema, Taylor & Francis Group, 2008- present.

Vol. 1 of the Book Series: *Structural Design Optimization Considering Uncertainties*, Yiannis Tsompanakis, Nikos D. Lagaros, and Manolis Papadrakakis, Editors; Dan M. Frangopol, Book Series Editor, ISBN13 978-0-415-45260-1(Hbk), ISBN13 978-0-203-93852-2 (ebook), Taylor & Francis, London, 2008, 656 pages.

Vol. 2 of the Book Series: *Computational Structural Dynamics and Earthquake Engineering*, Manolis Papadrakakis, Dimos C. Champis, Nikos.D. Lagaros and Yiannis. Tsompanakis, Editors; Dan M. Frangopol, Book Series Editor, ISBN13 978-0-415-45261-8(Hbk), CRC Press- Balkema- Taylor & Francis Group, Leiden, The Netherlands, 2008, 600 pages.

Vol. 3 of the Book Series: *Computational Analysis of Randomness in Structural Mechanics*, Christian Bucher; Dan M. Frangopol, Book Series Editor, ISBN13 978-0-415-40354-2(Hbk), CRC Press- Balkema- Taylor & Francis Group, Leiden, The Netherlands, 2009, 248 pages.

Vol. 4 of the Book Series: *Frontier Technologies in Infrastructure Engineering*, Shi-Shenn Chen and Alfredo H-S.Ang, Editors; Dan M. Frangopol, Book Series Editor, ISBN13 978-0-415-49875-3(Hbk), CRC Press- Balkema- Taylor & Francis

- Group, Leiden, The Netherlands, 2009, 462 pages.
- Vol. 5 of the Book Series: *Damage Models and Algorithms for Assessment of Structures under Operating Conditions*: Siu-Seong Law and Xin-Qun Zhu; Dan M. Frangopol, Book Series Editor, ISBN13 978-0-415-45264-9(Hbk), CRC Press- Balkema- Taylor & Francis Group, Leiden, The Netherlands, 2009, 340 pages.
- Vol. 6 of the Book Series: *Structural Identification and Damage Detection using Genetic Algorithms*: Chan Ghee Koh and Michael John Perry; Dan M. Frangopol, Book Series Editor, ISBN13 978-0-415-46102-3(Hbk), CRC Press- Balkema- Taylor & Francis Group, Leiden, The Netherlands, 2010, 140 pages.
- Vol. 7 of the Book Series: *Design Decisions under Uncertainty with Limited Information*: Efstratios Nikolaidis, Zissimos P. Mourelatos, and Vijitashwa Pandey; Dan M. Frangopol, Book Series Editor, ISBN13 978-0-415-49247-8(Hbk), CRC Press- Balkema- Taylor & Francis Group, Leiden, The Netherlands, 2011, 538 pages
- Vol. 8 of the Book Series: *Moving Loads – Dynamic Loads and Identification Techniques*: Siu-Seong Law and Xin-Qun Zhu; Dan M. Frangopol, Book Series Editor, ISBN13 978-0-415-87877-7(Hbk), CRC Press- Balkema- Taylor & Francis Group, Leiden, The Netherlands, 2011, 332 pages.
- Vol. 9 of the Book Series: *Seismic Performance of Concrete Buildings*: Liviu Crainic and Mihai Munteanu; Dan M. Frangopol, Book Series Editor, ISBN13 978-0-415-63186-0(Hbk), CRC Press- Balkema- Taylor & Francis Group, Leiden, The Netherlands, 2013, 263 pages.
- Vol. 10 of the Book Series: *Maintenance and Safety of Aging Infrastructure*: Dan M. Frangopol and Yiannis Tsompanakis, Editors; Dan M. Frangopol, Book Series Editor, ISBN: 978-0-415-65942-0 (Hbk), CRC Press/Balkema, Taylor & Francis Group, London, 2014, 746 pages.
- Vol. 11 of the Book Series: *Non-Destructive Techniques for the Evaluation of Structures and Infrastructure*: Belén Riveiro and Mercedes Solla, Editors; Dan M. Frangopol, Book Series Editor, ISBN: 978-1-138-02810-4 (Hbk), CRC Press/Balkema, Taylor & Francis Group, London, 2016, 398 pages.
- Vol. 12 of the Book Series: *Load Testing of Bridges: Current Practice and Diagnostic Load Testing*: Eva Lantsoght, Editor, Dan M. Frangopol, Book Series Editor, CRC Press/Balkema, Taylor & Francis Group, London, 2019, 302 pages.
- Vol. 13 of the Book Series: *Load Testing of Bridges: Proof Load Testing and the Future of Load Testing*: Eva Lantsoght, Editor, Dan M. Frangopol, Book Series Editor, CRC Press/Balkema, Taylor & Francis Group, London, 2019, 378 pages.

### 10.3 Editorial Board Member

- Editorial Board, *Advances in Concrete Construction*, Techno Press, 2012-13.
- Editorial Board *Advances in Structural Engineering*, SAGE, 2015-present.
- Editorial Board, *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems*, ASCE-ASME, 2014-present.
- Editorial Board, *Bridge Engineering*, Institution of Civil Engineers, Thomas Telford, 2008-12.
- Editorial Board, *Computational Structural Engineering*, Coseik, 2000-03.
- Editorial Board, *Computers & Structures*, Pergamon, Elsevier Science, 1997-2015.
- Editorial Board, *Construction and Building Materials*, Elsevier Science, 1999-present.
- Editorial Board, *Disaster Prevention and Resilience*, OAE Publishing Inc., 2021-present.
- Editorial Board, *Engineering Optimization*, Taylor & Francis, 1988-2004.
- Editorial Board, *Engineering Structures*, Elsevier Science, 1997-present.
- Editorial Board, *Infrastructures*, Multidisciplinary Digital Publishing Institute, Basel, 2015-present.
- Editorial Board, *KSCE Journal of Civil Engineering*, Korean Society of Civil Engineers, 2006-11.
- Editorial Board, *Probabilistic Engineering Mechanics*, Elsevier Science, 1998-present.
- Editorial Board, *Reliability Engineering & System Safety*, Elsevier Applied Science, 1999-2010.
- Editorial Board, *Resilient Cities and Structures*, Elsevier, 2021-present.
- Editorial Board, *Romanian Journal of Technical Sciences – Applied Mechanics*, 2017-present.
- Editorial Board, *Scientific Bulletin*, Technical University of Civil Engineering, Bucharest, 2005-present.
- Editorial Board, *Steel Construction*, Ernest & Sohn, A Wiley Company, 2011-present.
- Editorial Board, *Structural Engineering International*, Journal of IABSE, USA Correspondent, 1999-2020.
- Editorial Board, *Structural Engineering Review*, Pergamon, 1992-96.
- Editorial Board, *Structural Safety*, Elsevier Science, Oxford, 1993-present.
- Editorial Board, *Structure & Infrastructure Engineering*, Taylor & Francis, Founder and Editor-in-Chief, 2005-present.
- Editorial Board, *Structures*, Institution of Structural Engineers and Elsevier, 2014-19.
- Editorial Board, *Sustainable and Resilient Infrastructure*, Taylor & Francis, 2016-present.

### 10.4 Edited Books

- Editor (with J.S. Jensen and J.W. Schmidt), *Bridge Maintenance, Safety, Sustainability and Digitalization*, Open Access Book (ISBN: 978-1-032-77040-6 (hbk); ISBN: 978-1-032-77560-9 (pbk); ISBN: 978-1-003-48375-5 (ebk), DOI: 10.1201/9781003483755, 480 full length papers, 4140 pages, CRC Press/Balkema, Taylor & Francis Group, London, 2024.
- Editor (with F. Biondini), *Life-Cycle of Structures and Infrastructure Systems*, Open Access Book (ISBN: 978-1-032-34610-6 (hbk); ISBN: 978-1-032-34611-3 (pbk); ISBN: 978-1-003-32302-0 (ebk)), DOI: 10.1201/9781003323020, 514 full length papers, 4240 pages, CRC Press/Balkema, Taylor & Francis Group, London, 2023.
- Editor (with J.R. Casas and J. Turmo), *Bridge Safety, Maintenance, Management, Life-Cycle, Resilience and Sustainability*, USB card, (2646 pages; ISBN: 978-1-032-35623-5), with 324 full length papers, CRC Press/Balkema, Taylor & Francis Group, London, 2022.
- Editor (with A. Chen and X. Ruan), *Life-Cycle Civil Engineering: Innovation, Theory and Practice*, Set of Book and USB card, Book ISBN: 978-0-367-36019-1 (Hbk+USB), 384 pages, and ISBN: 978-0-429-34329-2 (eBook PDF), 1756 pages, DOI: 10.1201/9780429343292, with 234 full length papers, CRC Press/Balkema, Taylor & Francis Group, London, 2021.

- Editor (with H. Yokota), *Bridge Maintenance, Safety, Management, Life-Cycle Sustainability and Innovations*, Set of Book and USB card, Book ISBN 978-0-367-23278-8 (Hbk+USB), 926 pages, and ISBN 978-0-429-27911-9 (eBook), 4238 pages, DOI: 10.1201/9780429279119, with 571 full length papers, CRC Press/Balkema, Taylor & Francis Group, London, 2021.
- Editor (with F. Biondini), *Life-Cycle Design, Assessment and Maintenance of Structures and Infrastructure Systems*, ISBN: 978-0-7844-1546-7, ASCE, Reston, Virginia, 2019, 188 pages.
- Editor (with R. Caspeele, R. and L. Taerwe), *Life-Cycle Analysis and Assessment in Civil Engineering: Towards an Integrated Vision*. Set of Book and USB card, Book ISBN:978-1-138-62633-1 (Hbk+USB), 600 pages, and ISBN: 978-1-315-22891-4 (eBook PDF) 3160 pages, with 399 full length papers, CRC Press/Balkema, Taylor & Francis Group, London, 2019.
- Editor (with N. Powers, R. Al-Mahaidi, and C. Caprani), *Maintenance, Safety, Risk, Management and Life-Cycle Performance of Bridges*, Set of Book and USB card, Book ISBN: 978-1-138-73045-8 (Hbk + digital medium), 588 pages, and 978-1-315-18939-0 (eBook PDF), 2499 pages, with 393 full length papers, CRC Press/Balkema, Taylor & Francis Group, London, 2018.
- Editor (with F. Biondini), *Design, Assessment, Monitoring and Maintenance of Bridges and Infrastructure Networks*, Routledge, ISBN: 978-1-138-48921-9, 2018, 198 pages.
- Editor (with A. Cheng and X. Ruan), *Bridge Design, Assessment and Monitoring*, Routledge, ISBN: 978-0-8153-8288-7, 2018, 124 pages.
- Editor (with H. Furuta and M. Akiyama), *Life-Cycle of Structural Systems*, Routledge, ISBN: 978-0-8153-8428-1, 2018, 214 pages.
- Editor (with C. Bucher and B.R. Ellingwood), *Safety, Reliability, Risk, Resilience and Sustainability of Structures and Infrastructure*, USB Flash Drive, TUVerlag, TU-MV Media Verlag GmbH, ISBN: 978-3-903024-28-1, Vienna, 2017, 3598 pages.
- Editor (with J. Bakker and K. van Breugel), *Life-Cycle of Engineering Systems: Emphasis on Sustainable Civil Infrastructure*, Set of Book and USB card (ISBN: 978-1-138-02847-0 (Hbk+USB card) and ISBN: 978-1-315-37517-5 (eBook PDF), 438 pages, and USB card, 333 full length papers, 2379 pages, CRC Press, Taylor & Francis Group plc., A. A. Balkema, London, 2017.
- Editor (with T. Bittencourt and A.T. Beck), *Maintenance, Monitoring, Safety, Risk and Resilience of Bridges and Bridge Networks*, Set of Book and DVD. Book (ISBN: 978-1-138-02851-7(Hbk+DVD) and ISBN: 978-1-4987-7703-2(eBook PDF)), 616 pages, and DVD (ISBN: 978-1-138-02851-7, 2596 pages), 369 full length papers, CRC Press, Taylor & Francis Group plc., A. A. Balkema, London, 2016.
- Editor (with H. Furuta and M. Akiyama), *Life-Cycle of Structural Systems: Design, assessment, maintenance and management*, Set of Book and DVD, Book (ISBN: 978-1-138-00120-6 (Hbk), 466 pages and ISBN: 978-1-315-76180-0 (eBook PDF), and DVD with 312 full length papers , 2332 pages, CRC Press/Balkema, Taylor & Francis Group, London, 2015.
- Editor (with A. Chen and X. Ruan), *Bridge Maintenance, Safety, Management and Life Extension*, Set of Book and DVD, Book (ISBN: 978-1-138-00103-9 (Hbk), 648 pages and ISBN: 978-1-315-76069-8 (eBook), and DVD (ISBN: 978-1-138-00103-9, 2905 pages), 396 full length papers, CRC Press/Balkema, Taylor & Francis Group, London, 2014.
- Editor (with G. Deodatis and B. R. Ellingwood), *Safety, Reliability, Risk and Life-Cycle Performance of Structures and Infrastructures*, Book (ISBN: 978-1-138-00086-5, 1112 pages), CRC Press, Taylor & Francis Group, London, Leiden, 2013; and USB Flash Drive (758 full length papers, 5680 pages), Taylor & Francis Group, London, 2014.
- Editor (with A. Strauss and K. Bergmeister), *Life-Cycle and Sustainability of Civil Infrastructure Systems*, Set of Book and DVD, Book (ISBN: 978-0-415-62126-7 (Hbk) and ISBN: 978-0-203-10336-4(eBook), 518 pages) and DVD (ISBN 978-0-415-62126-7, 2515 pages), 344 full length papers, CRC Press, Taylor & Francis Group, London, Leiden, 2012.
- Editor (with F. Biondini), *Bridge Maintenance, Safety, Management, Resilience and Sustainability*, Set of Book and DVD, Book (ISBN: 978-0-415-87786-2 (Hbk) and ISBN: 978-0-203-10338-8(eBook), 792 pages) and DVD (ISBN 978-0-415-62124-3, 4118 pages), 555 full length papers, CRC Press, Taylor & Francis Group, London, Leiden, 2012.
- Editor (with S-S. Chen and A-H.S. Ang), *Life-Cycle of Civil Engineering Systems*, Set of Book (ISBN: 978-986-02-4986-6 (hbk), 322 pages) and CD-ROM (ISBN: 978-986-02-4986-6 (916 pages)), Taiwan Building Technology Center, DnE Information Service Net Company, Taipei, Taiwan, 2010.
- Editor (with R. Sause and C. Kusko), *Bridge Maintenance, Safety, Management and Life-Cycle Optimization*, Set of Book and CD-ROM, A Balkema Book (ISBN 13: 978-0-415-87786-2 (hbk), 744 pages) and CD-ROM (ISBN 13: 978-0-415-87786-2 (3986 pages)), 511 full length papers, CRC Press, Taylor & Francis Group, London, Leiden, 2010.
- Editor (with H. Furuta and M. Shinozuka), *Safety, Reliability and Risk of Structures, Infrastructures and Engineering Systems*, Taylor & Francis Group plc. & Balkema, Set of Book and CD-ROM, A Balkema Book (ISBN 978-0-415-47557-0 (hbk 858pages) and CD-ROM (ISBN13 978-0-415-47557-0 (4372 pages)), CRC Press, Taylor & Francis Group, Boca Raton, London, New York, Leiden, 2010.
- Editor (with H-M. Koh), *Bridge Maintenance, Safety, Management, Health Monitoring and Informatics, Bridge Maintenance, Safety, Management, Health Monitoring and Informatics*, Set of Book and CD-ROM, A Balkema Book (ISBN 13: 978-0-415-46844-2 (hbk), 786 pages) and CD-ROM (ISBN 13 978-0-415-46844-2), 465 full length papers, CRC Press, Taylor & Francis Group, Boca Raton, London, New York, Leiden, 2008.
- Editor (with F. Biondini), *Life-Cycle Civil Engineering*, Set of Book and CD-ROM, A Balkema Book (ISBN 978-0-415-46857-2 (hbk), ISBN 10: 0415468574, CRC Press, Taylor & Francis Group, Boca Raton, London, New York, Leiden, 2008, 990 pages.
- Editor (with M. Kawatani and C. Kim), *Reliability and Optimization of Structural Systems: Assessment, Design and Life-cycle Performance* (ISBN 13: 978-0-415-40655-0), Taylor & Francis Group plc. & Balkema, London, 2007, 280 pages.
- Editor (with H-N. Cho and A. H-S. Ang), *Life-Cycle Cost and Performance of Civil Infrastructure Systems* (ISBN 13: 978-0-415-41356-5), Taylor & Francis Group plc. & Balkema, London, 2007, 332 pages.
- Editor (with P. Cruz and L. Neves), *Bridge Maintenance, Safety, Management, Life-Cycle Performance and Cost*, Book (ISBN 0-415-403154, 1125 pages) and CD-ROM (ISBN 0-415-40325-1, 3484 pages), Taylor & Francis Group plc. & Balkema, London, 2006.
- Editor (with J. D. Sørensen), *Advances in Reliability and Optimization of Structural Systems*, Book (ISBN 0-415-39901-7), Taylor & Francis Group plc. & Balkema, London, 2006, 308 pages.
- Editor (with A.S. Nowak), *Advances in Life-Cycle Analysis and Design of Civil Infrastructure Systems*, Lincoln. Nebraska, 2005, 416 pages.
- Editor (with E. Watanabe and T. Utsunomiya), *Bridge Maintenance, Safety, Management and Cost*, Book (ISBN 90 -5809-680-7, 1016 pages) and CD-ROM (ISBN 04-1536-336-X, 347 full length papers), A.A. Balkema, Swets & Zeitlinger B.V., Lisse, The Netherlands, 2004.

Editor (with E. Bruhwiler, M.H. Faber and B. Adey), *Life-Cycle Performance of Deteriorating Structures: Assessment, Design and Management*, Book (ISBN 0-7844-0707-X), ASCE, Reston, Virginia, 2004, 456 pages.

Editor (with J. R. Casas and A. S. Nowak), *Bridge Maintenance, Safety and Management*, Book (ISBN 84-95999-05-6, 540 pages) and CD-ROM (ISBN 84-89925-37-2) published by CIMNE, Barcelona, Spain, 2002.

Editor (with A. Miyamoto), *Maintaining the Safety of Deteriorating Civil Infrastructures* (ISBN 4-9901161-8-6 C3051), Yamaguchi University Press, Japan, 2002, 374 pages.

Editor (with P.C. Das and A.S. Nowak), *Current and Future Trends in Bridge Design, Construction and Maintenance 2* (ISBN 0 7277 3091 6), The Institution of Civil Engineers, Thomas Telford Publ., London, 2001, 576 pages.

Editor (with H. Furuta), *Life-Cycle Cost Analysis and Design of Civil Infrastructure Systems* (ISBN 0-7844-0571-9), ASCE, Reston, Virginia, 2001, 336 pages.

Editor (with P.C. Das and A.S. Nowak), *Current and Future Trends in Bridge Design, Construction and Maintenance* (ISBN 0 7277 2841 5), The Institution of Civil Engineers, Thomas Telford Publ., London, 1999, 660 pages.

Editor, *Bridge Safety and Reliability* (ISBN 0-7844-0442-9), ASCE, Reston, Virginia, 1999, 239 pages.

Editor, *Case Studies in Optimal Design and Maintenance Planning of Civil Infrastructure Systems* (ISBN 0-7844-0420-8), ASCE, Reston, Virginia, 1999, 261 pages.

Editor, *Optimal Performance of Civil Infrastructure Systems* (ISBN 0-7844-0315-5), ASCE, Reston, Virginia, 1998, 222 pages.

Editor (with F.Y. Cheng), *Advances in Structural Optimization* (ISBN 0-7844-0221-3), ASCE, New York, 1997, 225 pages.

Editor (with R. B. Corotis and R. Rackwitz), *Reliability and Optimization of Structural Systems* (ISBN 0-08-042826-6), Pergamon, Elsevier Science, Oxford, 1997, 363 pages.

Editor (with G. Hearn), *Structural Reliability in Bridge Engineering* (ISBN 0-07-027707-9), McGraw-Hill, New York, 1996, 364 pages.

Editor (with M. Grigoriu), *Probabilistic Mechanics & Structural Reliability* (ISBN 0-7844-0184-5), ASCE, New York, 1996, 1024 pages.

Editor, *New Directions in Structural System Reliability* (Library of Congress Catalog Card Number: 89-50015), The University of Colorado Press, Boulder, 1989, 412 pages.

Editor, *Effects of Damage and Redundancy on Structural Performance* (ISBN 0-87262-587-7), ASCE, New York, 1987, 85 pages.

## 10.5 Guest Editor

Guest Editor (with F. Biondini and Y. Tsompanakis), Special Issue of *Structure and Infrastructure Engineering* on “Advances in Life-cycle of Structures and Infrastructure Systems,” Taylor & Francis, 2024 (in progress).

Guest Editor (with J. R. Casas, J. Turmo, and Y. Tsompanakis), Special Issue of *Structure and Infrastructure Engineering* on “Advances in Bridge Design, Assessment, Maintenance, Reliability, Risk, Resilience, and Sustainability,” Taylor & Francis, 2024, Vol. 20, Nos. 7-8, 2024, 957-1273.

Guest Editor (with H. Yokota, M. Akiyama, and Y. Tsompanakis), Special Issue of *Structure and Infrastructure Engineering* on “Bridge Maintenance, Monitoring, Management, Risk, Life-cycle Performance and Optimization,” Taylor & Francis, 2022, Vol. 18, Nos. 10-11, 2022, 1377-1600.

Editor (with S. A. Mitoulis, M. Domaneschi, J. R. Casas, G. P. Cimellaro, N. Catbas, and B. Stojadinovic), Special Issue of *Proceedings of the Institution of Civil Engineers – Bridge Engineering on The Crux of Bridge and Transport Network Resilience – Advancements and Future-proof Solutions*, ICE Publishing, Thomas Telford Ltd., Vol. 175, No. 3, 2022, 133-137.

Guest Editor (with A. Chen, X. Ruan, and Y. Tsompanakis), Special Issue of *Structure and Infrastructure Engineering* on “Life-Cycle, Reliability and Sustainability of Civil Infrastructure,” Taylor & Francis, Vol. 18, No. 7, 2022, 893-1090.

Curator of Special Collection (with S. Narasimhan), *Bridge Asset Management Collection*, Selected journal papers and book chapters on bridge asset management published by ASCE (infographic to share ASCE publications with broader audience), ASCE Library, January 2022.

Guest Editor (with Y. Dong, M. Akiyama, and Y. Tsompanakis), Special Issue of *Structure and Infrastructure Engineering* on Risk-, Resilience-, and Sustainability-Informed Assessment and Management of Civil Infrastructure in a Life-Cycle Context, Taylor & Francis, Vol. 17, No. 4, 2021, 441-589.

Guest Editor (with R. Caspele and Y. Tsompanakis), Special Issue of *Structure and Infrastructure Engineering* on Life-Cycle, Risk, Resilience and Sustainability of Civil Infrastructure, Taylor & Francis, Vol. 16, No. 4, 2020, 517-802.

Guest Editor (with N. Powers, R. Al-Mahaidi, C. Caprani, and Y. Tsompanakis), Special Issue of *Structure and Infrastructure Engineering* on Maintenance, Safety, Risk, Management and Life-Cycle Performance of Bridges, Taylor & Francis, Vol. 16, No. 1, 2020, 1-231.

Guest Editor (with J. Bakker and Y. Tsompanakis), Special Issue of *Structure and Infrastructure Engineering* on Life-Cycle of Engineering Systems: Emphasis on Sustainable Civil Infrastructure, Taylor & Francis, 2018, Vol. 14, No. 7, 2018, 831-1035.

Guest Editor (with T.N. Bittencourt, A.T. Beck and Y. Tsompanakis), Special Issue of *Structure and Infrastructure Engineering* on Bridge Analysis, Design, Assessment, Monitoring and Management, Taylor & Francis, Vol. 14, No.4, 2018, 411-508.

Guest Editor (with A. Chen and X. Ruan), Special Issue of *Structure and Infrastructure Engineering* on Bridge Design, Maintenance, and Monitoring, Taylor & Francis, Vol. 13, No.4, 2017, 417-536.

Guest Editor (with T. Lahmer and C. Bucher), Special Section of papers presented at the 12<sup>th</sup> International Probabilistic Workshop held in Weimar, Germany, November 4-5, 2014, *Probabilistic Engineering Mechanics*, Elsevier, Vol. 45, 2016, 188-228.

Editor (with B. Ellingwood), State of the art collection: Risk-based life-cycle performance of structural systems, *Journal of Structural Engineering*, ASCE, Vol. 142, No. 9, 2016, 79 pages.

Guest Editor (with F. Biondini), Special Issue of *Structure and Infrastructure Engineering* devoted to Design, Assessment, Monitoring and Maintenance of Bridges and Infrastructure Networks, Taylor and Francis, Vol. 11, No.4, 2015, 413-603.

Guest Editor (with F. Biondini), Special Issue of *Structure and Infrastructure Engineering* devoted to Advances in Life-Cycle Engineering, Taylor and Francis, Vol. 10, No. 7, 2014, 843-927.

Guest Editor (with F. Biondini), Special Issue of *Structure and Infrastructure Engineering* on Bridge Design, Maintenance and Management, Taylor and Francis, Vol. 10, No. 4, 2014, 419-550.

Guest Editor (with F. Biondini), Special Issue of *Structure and Infrastructure Engineering* on Life-Cycle of Civil Engineering Systems, Taylor and Francis, Vol. 7, Nos. 1-2, 2011, 1-196.

Guest Editor (with Y. Tsompanakis), Special Issue of *Structural Safety* on Optimization under Uncertainty with Emphasis on Structural

- Applications, Elsevier, Vol. 31, No. 6, 2009, 449-552.
- Guest Editor (with J. D. Sørensen), Special Issue of *Structure and Infrastructure Engineering* on Advances in Reliability and Optimization of Structural Systems, Taylor and Francis, Vol. 4, No. 5, 2008, pp. 325-412.
- Guest Editor (with R. E. Melchers), Special Issue of *Reliability Engineering & System Safety* on Probabilistic Modelling of Structural Degradation, Elsevier, Vol. 93, No.3, 2008, pp. 363-500.
- Guest Editor (with K. Maute), Double Special Issue of *Computers & Structures* on Advances in Probabilistic Mechanics and Structural Reliability, Elsevier, Pergamon, Vol. 82, Nos. 13-14, 2004, pp. 969-1121.
- Guest Editor, Special Issue of *Computers & Structures* on Progress in Probabilistic Mechanics and Structural Reliability, Elsevier, Pergamon, Vol. 80, No. 12, 2002, pp. 1025-1144.
- Guest Editor (with C. Guedes-Soares), Special Issue of *Reliability Engineering & System Safety* on Reliability Oriented Optimal Structural Design, Elsevier, Vol. 73, No.3, 2001, pp. 195-306.
- Guest Editor (with M. Noori, Y.K. Wen and M. Grigoriu), Special Issue of *Probabilistic Engineering Mechanics* on Probabilistic Mechanics and Structural Reliability, Elsevier, Vol. 14, Nos. 1-2, 1999, pp. 1-211.
- Guest Editor (with G. Hearn), Special Issue of *Engineering Structures* on Bridge Reliability, Elsevier, Vol. 20, No. 11, 1998, pp. 931-1026.
- Guest Editor (with R. E. Melchers), Double Special Issue of *Structural Safety* on Reliability-Based Evaluation and Design of Masonry, Steel and Reinforced Concrete Structures, Elsevier, Amsterdam, Vol. 18, No. 2/3, 1996, pp. 65-258.
- Guest Editor, Special Issue of *Structural Engineering Review* on Progress in Bridge Engineering, Pergamon Press, Oxford, UK, Vol. 7, No. 3, 1995, pp. 149-266.
- Guest Editor, Special Issue of *Microcomputers in Civil Engineering* on Computer Aided Structural System Analysis, Design and Optimization, Blackwell, Cambridge, MA & Oxford, UK, Vol. 10, No. 1, 1995, pp. 1-76.
- Guest Editor (with R.B. Corotis), Double Special Issue of *Structural Safety* on Reliability-Based Structural System Assessment, Design and Optimization, Elsevier, Amsterdam, Vol. 16, Nos. 1+2, 1994, pp. 1-169.
- Guest Editor, Triple Special Issue of *Structural Safety* on Structural System Reliability, Elsevier, Amsterdam, Vol. 7, Nos. 2-4, 1990, pp. 85-314.

## 10.6 Conference Proceedings

- Editorial Board, *The Sixteenth International Conference on Civil, Structural, and Environmental Engineering Computing*, Civil-Comp 2019 (CC2019), Riva del Garda, Italy, September 16-19, 2019.
- Editorial Board, *The Fifteenth International Conference on Civil, Structural, and Environmental Engineering Computing*, Civil-Comp 2015(CC2015), Prague, Czech Republic, September 1-4, 2015.
- Editorial Board, *Fourth International Conference on Soft Computing Technology in Civil, Structural and Environmental Engineering* (CSC2015), Prague, Czech Republic, September 1-4, 2015.
- Editorial Board, *Twelfth International Conference on Computational Structures Technology*, Naples, Italy, September 2-5, 2014.
- Editorial Board, *The Fourteenth International Conference on Civil, Structural, and Environmental Engineering Computing*, Cagliari, Sardinia, Italy, September 3-6, 2013.
- Editorial Board, *The Third International Conference on Soft Computing Technology in Civil, Structural and Environmental Engineering*, Cagliari, Sardinia, Italy, September 3-6, 2013.
- Editorial Board, *Eleventh International Conference on Computational Structures Technology*, Dubrovnik, Croatia, September 4-7, 2012.
- Editorial Board, *The Second International Conference on Soft Computing Technology in Civil, Structural and Environmental Engineering*, Chania, Greece, September 6-9, 2011.
- Editorial Board, *Tenth International Conference on Computational Structures Technology*, Valencia, Spain, September 14-17, 2010.
- Editorial Board, *The Twelfth International Conference on Civil, Structural and Environmental Engineering Computing*, Madeira, Portugal, September 1-4, 2009.
- Editorial Board, *First International Conference on Soft Computing Technology in Civil, Structural and Environmental Engineering*, Madeira, Portugal, September 1-4, 2009.
- Editorial Board, *Ninth International Conference on Computational Structures Technology*, Athens, Greece, September 2-5, 2008.
- Editorial Board, *Eleventh International Conference on Civil, Structural and Environmental Engineering Computing*, St. Julians, Malta, September 18-21, 2007.
- Editorial Board, *Eighth International Conference on Computational Structures Technology*, Las Palmas de Gran Canaria, Spain, September 12-15, 2006.
- Editorial Board, *Tenth International Conference on Civil, Structural and Environmental Engineering Computing*, Rome, Italy, August-September 2005.
- Editorial Board, *The Tenth International Conference on Civil, Structural and Environmental Engineering Computing*, Rome, Italy, August-September 2005.
- Editorial Board, *Seventh International Conference on Computational Structures Technology*, Lisbon, Portugal, September 2004.
- Editorial Board, *Sixth International Conference on Computational Structures Technology*, Prague, Czech Republic, September 2002.
- Editorial Board, *Fifth International Conference on Computational Structures Technology*, Leuven, Belgium, September 2000.
- Editorial Board, *The Mouchel Centenary Conference on Innovation in Civil and Structural Engineering*, Cambridge, England, August 1997.
- Editorial Board, *Second International Conference on Non-Conventional Structures*, Edinburgh, United Kingdom, August 1996.
- Editorial Board, *Third International Conference on Computational Structures Technology*, Budapest, Hungary, August 1996.
- Editorial Board, *Second International Conference on Computational Structures Technology*, Athens, Greece, August-September 1994.
- Editorial Board, *Fifth International Conference on Civil and Structural Engineering Computing*, Edinburgh, United Kingdom, August 1993.
- Editorial Board, *International Conference on Computational Structures Technology*, Edinburgh, United Kingdom, August 1991; Proceedings published in Special Issues of International Journals of *Computers and Structures*, *Computing Systems in Engineering*, and *Structural Engineering Review*.
- Editorial Board, *Reliability and Risk Analysis in Civil Engineering*, Vols. 1 and 2, Proceedings ICASP 5, Institute for Risk Research,



University of Waterloo, Ontario, Canada, 1987.

## 11. INVITED LECTURES, SEMINARS AND/OR SHORT COURSES

- Australia* [Commonwealth Scientific & Industrial Research Organization, CSIRO, Highett, Melbourne; Structural Branch of Engineers, Victoria Division, Melbourne; Monash University; Swinburne University of Technology].
- Austria* [University of Innsbruck; Vienna University of Technology; Vienna University of Natural Resources and Applied Life Sciences].
- Bangladesh* [Bangladesh University of Engineering and Technology, Dhaka].
- Belgium* [Ghent University; University of Liège].
- Brazil* [University of São Paulo].
- Canada* [University of Waterloo; Ecole Polytechnique de Montreal; Ontario Ministry of Transportation; Western University].
- China* [Beijing Jiaotong University; Central South University; Central South University of Forestry and Technology; Chang'an University; Changsha University of Science and Technology; China University of Petroleum (East China); Chongqing Jiaotong University; Dalian University of Technology; Harbin Institute of Technology; Hunan University; Shanghai Jiao Tong University; Shenyang Jianzhu University; Southeast University; Tianjin University; Tongji University; Zhejiang University].
- Cyprus* [Cyprus University of Technology].
- Czech Republic* [Brno University of Technology; Czech Technical University in Prague].
- Denmark* [Denmark Ministry of Transportation, Copenhagen; University of Aalborg].
- England* [The Institution of Civil Engineers; The Highways Agency; Imperial College of Science and Technology; University of Cambridge; University of Surrey].
- France* [French Institute of Science and Technology for Transport, Development and Networks (IFSTTAR); French Institute of Advanced Mechanics (IFMA); Université Paris-Est].
- Germany* [Ruhr-University Bochum; Bauhaus-University Weimar; Technical University of Braunschweig; Technical University of Munich; University of the Federal Armed Forces Munich; University of Stuttgart; University of Hannover; University of Karlsruhe].
- Greece* [Technical University of Crete; National Technical University of Athens].
- Hong Kong, China* [The University of Hong Kong; The Hong Kong University of Science and Technology; City University of Hong Kong; The Hong Kong Polytechnic University (PolyU)].
- Ireland* [Trinity College Dublin].
- Italy* [Commission of the European Communities, Joint Research Center, ISPRA; ISMES; University of Brescia; University of Florence; IUAV University of Venice; Technical University (Politecnico) of Milan; University of Padua; University of Pavia; University of Perugia; University of Rome "La Sapienza"; University of Trento; University of Naples "Federico II"].
- Japan* [Institute of Japan; Bridge Management Forum (Japanese Group of IABMAS); Disaster Prevention Research Institute (DPR), Kyoto University; Docon-Hokkaido Engineering Consultants; Ehime University; Hanshin Expressway Public Corporation; Hokkaido University; Honshu-Shikoku Bridge Authority; Japan Highway Public Corporation and Expressway Technology Center; Japan Civil Engineering Consultants Association; Japan Society of Civil Engineers (JSCE); Japan Society of Steel Construction (JSSC) and Bridge and Offshore Engineering Association (BOEA); Kagawa University; Kajima Corporation; Kanagawa University; Kanazawa Institute of Technology; Kansai Electric Power Company and New Japan Engineering Consultants; Kansai University; Kobe University; Kyoto University; Kyushu University; Metropolitan Expressway Public Corporation; Mitsubishi Heavy Industries Ltd.; Nagoya University; National Defense Academy; Nihon University; Nihon University; Japan Society of Steel Construction; Obayashi Corporation; Osaka City Government Bridge Committee; Osaka University; Osaka City Government; Rehabilitation and Maintenance of Structures Association (RAMS), Hiroshima Institute of Technology; Study Groups of Structures in Tokai, Nagoya University; Takenaka Corporation; Tokyo Electric Power Company; University of Osaka Prefecture; University of Tokyo, Institute of Industrial Science and Engineering Research Institute; Waseda University; Yamaguchi University; Yokohama National University].
- Korea* [Hanyang University; Korea Institute of Construction Technology, Gyeonggi-Do; Seoul National University; Sung-Kyun-Kwan University; Yonsei University].
- Mexico* [Universidad Autonoma del Estado de Mexico].
- Netherlands* [Delft University of Technology].
- Norway* [Det norske Veritas (A.S. Veritas Research); Norwegian Public Road Administration; University of Oslo; University of Trondheim (NTH)].
- Poland* [Krakow University of Technology].
- Portugal* [University of Minho].
- Romania* [Technical University of Civil Engineering Bucharest; Technical University "Gheorghe Asachi" of Iasi; "Politechnica" University of Timisoara; Romanian Academy of Technical Sciences, Bucharest; Romanian Academy, Timișoara branch].
- Singapore* [National University of Singapore].
- South Africa* [University of Cape Town; Stellenbosch University].
- Spain* [Technical University of Catalonia, Barcelona; Polytechnic University of Valencia].
- Sweden* [Chalmers University of Technology; Lulea University of Technology; University of Lund].
- Switzerland* [Swiss Federal Institute of Technology, Lausanne (EPFL) and Zurich (ETH)].
- Taiwan* [National Central University; Ruentex Engineering & Construction Co., Ltd.; National Taiwan University of Science and Technology].
- Turkey* [Istanbul Technical University].
- United States of America* [Bureau of Reclamation, Concrete Dams Branch, Denver; Carnegie Mellon University; Case Western Reserve University; Colorado School of Mines; Cornell University; Florida International University; Georgia Institute of Technology; Illinois Institute of Technology; Johns Hopkins University; Lehigh University; New Jersey Institute of Technology; North Carolina State University; Northeastern University; Northwestern University; Ohio State University; Pennsylvania State University; Princeton University; Purdue University; Rice University; Texas A&M University; Texas Tech University; University of California, San Diego; University of Central Florida; University of Colorado; University of Hawaii at Manoa; University of Illinois at Urbana-Champaign; University of Miami; University of Michigan; University of Minnesota; University

of Notre Dame; University of Utah; U.S. Naval Academy].

## 12. PROFESSIONAL AFFILIATIONS

Academia Europaea (Academy of Europe, London), *Foreign Member*, Section, Physics & Engineering Sciences, Elected in 2015.

American Society of Civil Engineers, *Distinguished Member (formerly called Honorary Member)* of ASCE (Elected in 2010); *Inaugural Fellow* of the Structural Engineering Institute (Elected in 2012); *Inaugural Fellow* of the Engineering Mechanics Institute (Elected in 2013); *Life Member* (2011-present).

*Chair* of Executive Committee of the Technical Activities Division, Structural Engineering Institute of ASCE (1999-2000), *Vice-Chair* (1998-99), *Secretary* (1997-98), *Control Group Member* (1997-2002).

*Vice-President* of the Engineering Mechanics Institute, ASCE, Elected in 2014 (2014-15).

*Member* of the Board of Governors of the Engineering Mechanics Institute, ASCE Presidential Appointee (2013-15).

*Member* of the Technical Region Board of Governors (2014-15).

*Member* of the Society Awards Committee (2013-14).

*Member* of the Industry Leaders Council (ILC) (2016-present), ILC Performance Based Standard/LCCA Working Group (2016-18 and ILC Resilience Working Group (2019-22); Risk and Resilience Task Group (2022-present).

*Chair* of Administrative Committee on Awards (2004-05), *Member* (2000-06).

*Member* of the Engineering Mechanics Institute Award Recommendation Committee for Several Awards (2020-23).

*Founder and Inaugural Chair* of the Technical Council on Life-Cycle Performance, Safety, Reliability and Risk of Structural Systems (2008-16), *Control Group Member of Task Groups 1 and 2* (2008-16), and *Past-Chair* (2017-present).

*Chair* of Technical Administrative Committee on Structural Safety and Reliability (2006-08), *Control Group Member* (1990-94, 1995-97), *Member* (1990-97).

*Chair* of Committee on Safety of Buildings (1990-94), *Control Group Member* (1985-88, 1990-97, 2001-05), *Member* (1983-88, 1990-97, 2001-08).

*Chair* of Committee on Safety of Bridges (1995-97), *Control Group Member* (1992-94, 1995-99, 2001-07), *Member* (1988-94, 1995-97, 2001-08).

*Chair* of Committee on Optimal Structural Design (1994-98), *Control Group Member* (1991-2002), *Member* (1985-88 and 1989-2002).

*Charter Member* of Structural Engineering Institute, SEI – ASCE (1996-present), *Fellow* (2012- present).

*Corresponding Member* of the ASCE International Activities Committee (2011-13).

*Liaison* between ASCE–International Association for Bridge and Structural Engineering (1999-2011).

*Control Group Member* of Committee on Reliability of Offshore Structures (1994-96), *Member* (1994-99).

*Control Group Member* of Task Committee on LRFD for Concrete Bridges (1989-91).

*Control Group Member* of ASCE-EMD Committee on Probabilistic Methods (2005-06), *Member* (1986-2002, 2004-present).

*Control Group Member* of Technical Administrative Committee on Analysis and Computation (1994-2002).

*Member* of Committee on Structural Identification (2010-16).

*Member* of Committee on Computer-Aided Analysis and Design (1992-99).

*Member* of Committee on Performance-Based Design and Evaluation of Constructed Facilities (2000-04).

*Member* of Task Committee on Practical Reliability Concepts (1986-89).

*Member* of the Engineering Mechanics Institute (2010-present), *Fellow* (2013-present).

*Member* of ASCE (1983-93), *Fellow* of ASCE (1993-2010).

American Concrete Institute, *Fellow* of ACI (Elected 1997).

*Chair* of Subcommittee on Existing Structures of Committee 348 on Structural Safety (1989-92).

*Member* of Committee 348, Structural Safety (1983-present).

*Member* of ACI-ASCE Committee 343 on Concrete Bridge Design (1994-present).

*Faculty Representative* of ACI, University of Colorado, Boulder Campus (1998-2006).

*Member* of ACI (1984-97).

American Institute of Aeronautics and Astronautics, AIAA Working Technical Group on Nondeterministic Approaches (1998-2006).

American Institute of Steel Construction, *Member* of AISC (2012- present).

American Society for Quality, Probabilistic Technology Community, Probabilistic Techniques for Design of Complex Systems Project (ARES) with focus on NASA’s ARES (2007-09).

Canadian Academy of Engineering, *International Fellow*, Elected 2022.

Council on Tall Buildings and Urban Habitat; *Member* (2007-present).

Consortium of Universities for Research in Earthquake Engineering, CUREE, *Member* (2003-05, 2010-15).

Earthquake Engineering Research Institute, EERI (1987-present); EERI Committee on Existing Buildings (1990-94).

Engineering Academy of Japan, *Foreign Associate*, Elected 2020.

Foundation of the Polytechnic University of Timișoara, Romania, *Honorary Member* (2014-present).

Fritz Engineering Research Society, FERS, Lehigh University (2008-present).

Institute for Cyber-Physical Infrastructure and Energy, I-CPIE, Lehigh University (2018-present).

Institute for Data, Intelligent Systems, and Computation, I-DISC, Lehigh University (2018-present).

International Association for Bridge Maintenance and Safety, IABMAS, *Founding President* (Elected 1999).

*President* of IABMAS (1999-present).

*Chair* of the Executive Committee of IABMAS (1999-present).

*Member* of IABMAS (1999-present).

*Honorary President* of IABMAS-Italy Group (2013-present), IABMAS-Brazil Group (2013-present), IABMAS-Chile Group (2017-present), IABMAS-Turkey Group (2018-present), IABMAS-Korea Group (2018-present), IABMAS-Sri Lanka Group (2019-present), IABMAS-USA Group (2020-present), IABMAS Canada Group (2022-present), IABMAS-Sweden Group (2023-present).

*Honorary Member* of IABMAS-Portugal Group (2006-present), IABMAS-China Group (2012-present), IABMAS-Australia Group (2014-present), IABMAS-Japan Group (2015-present), IABMAS-Spain Group (2021-present), IABMAS-Denmark Group

(2023-present).

*Member* of IABMAS Committees on Bridge Load Testing (2021-present), Bridge Health Monitoring (2022-present), and Bridge Management (2022-present).

International Association for Bridge and Structural Engineering, *Fellow* IABSE (2006).

*Chair* of IABSE Working Commission 1 on Structural Performance, Safety and Analysis (2005-09), *Vice-Chair* (2001-05), *Member* (1995-2009), *Guest* (1993-95).

*Member* of IABSE Technical Committee (2005-09).

*Member* of IABSE Outstanding Paper Award Committee (1997-98).

*Member* of IABSE (1990-present).

International Association for Life-Cycle Civil Engineering, IALCCE, *Founding President* (Elected 2006).

*President* of IALCEE (2006-present).

*Chair* of the Executive Board of IALCEE (2006-present).

*Member* of IALCEE (2006-present).

*Honorary President* of IALCEE-Dutch Group (2020-present).

International Association for Structural Safety and Reliability, IASSAR (1988-present).

*Vice-President* of IASSAR (2013-17).

*Chair* of the Executive Board of IASSAR (2006-13).

*Chair* of the IASSAR Awards Committee (2017).

*Founding Chair* of the Technical Committee 4 (TC4) on Life-Cycle Performance, Cost and Optimization (2012-present).

*Vice-Chair* of Subcommittee SC3 on Systems Reliability and Optimization (2001-present), *Member* (1993-present).

*Member* of Subcommittee SC5 on Systems Identification and Structural Control (1993-2009).

*Member* of IASSAR (1998-present).

International Association for Civil Engineering Reliability and Risk Analysis, CERRA (1987-present).

International Engineering Society for Advancing Mobility, SAE (1994-2010).

*Member* of SAE International Reliability, Maintainability and Supportability (RMS) Committee on Probabilistic Methods (G 11).

International Federation for Information Processing, IFIP (1987-present).

*Chair* of Working Group 7.5 on Reliability and Optimization of Structural Systems (2003-07).

*Honorary Member* of Working Group 7.5 on Reliability and Optimization of Structural Systems (2006-present).

*Member* (1987-present).

International Society for Structural and Multidisciplinary Optimization, ISSMO (1994-2010).

International Society for Health Monitoring of Intelligent Infrastructures, ISHMII, *Founding Vice-President* (2004-2012).

*Vice-President* of ISHMII (Elected in 2004),

*Fellow* (Elected in 2009),

*Member* of ISHMII Council (2004-present).

International Working Group on Structural Health Monitoring (IWGSHM), Intelligent Sensing for Innovative Structures (ISIS), Canada Research Network, (2003-04).

Japan Society for the Promotion of Science, JSPS, *Fellow*, Fellowships Awards for Research in Japan (one month (June 2003) at Kyoto University, hosted by Professor Eiichi Watanabe; and 15 days (short term, March 2017) at Waseda University, hosted by Professor M. Akiyama).

Joint Committee on Structural Safety, JCSS (2001-present).

*Board Member* of JCSS (2001-09).

*Representative* of IABSE in the JCSS Board (2001-09).

*Member* of JCSS Working Party 1 on Structural Reliability (2001-present).

Mexican Academy of Engineering, *Corresponding Member*, elected 2023

National Academy of Construction of the United States, *Member*, elected 2020.

North American Fuzzy Information Processing Society, NAFIPS (1986-94).

Royal Academy of Belgium for Science and the Arts, Section: Technical Sciences, *Foreign Member*, elected 2016.

Romanian Academy, *Honorary Member*, elected 2017.

Romanian Academy of Technical Sciences, *Honorary Member*, elected 2000.

Romanian Association of Structural Design Engineers, *Honorary Member*, elected 2024.

Sigma Xi, The Scientific Research Society (1986-2000).

Society for Experimental Mechanics, SEM (2015-21).

Transportation Research Board, TRB (1987-present).

*Chair* of TRB Subcommittee AFF20 (1) on Methods of Analyzing Steel Bridges (1999-2007).

*Member* of TRB Committee AFF40 on Dynamics and Field Testing of Bridges (1989-98, 2001-09), Subcommittee on Research Needs, *Chair* (1989-92); Subcommittee on Technical Sessions, *Chair* (1992-95).

*Member* of TRB Committee AFF20 on Steel Bridges (1990-2008).

*Member* of TRB Committee AFF30 on Concrete Bridges (1999-2007).

*Member* of TRB Committee AKB40 on Testing and Evaluation of Transportation Structures (1989-98, 2001-09, 2015-25).

### 13. ACADEMIC EXPERIENCE

#### 13.1 Academic Appointments

2006 (August) - present	The Fazlur Rahman Khan Endowed Chair of Structural Engineering and Architecture, Lehigh University, Bethlehem, Pennsylvania
2006 (August) - present	Professor, Lehigh University, Bethlehem, Pennsylvania
2006 (August) - present	Emeritus Professor and Adjunct Professor, University of Colorado, Boulder
1988 (June) - 2006 (August)	Professor, University of Colorado, Boulder
1983 (March) - 1988 (May)	Associate Professor, University of Colorado, Boulder

1977 (January) - 1979 (August)  
1969 (September) - 1974 (January)

Associate Professor, Institute of Civil Engineering, Bucharest  
Assistant Professor, Institute of Civil Engineering, Bucharest

### 13.2 Courses Taught

#### 13.2.1 Institute of Civil Engineering, Bucharest

Introduction to Civil Engineering Systems; Basic Structural Analysis; Basic Structural Design (Senior Project); Reinforced Concrete Design (Senior Project); Reliability of Steel Structures (Graduate Course).

#### 13.2.2 University of Colorado, Boulder

CVEN 3217-3.	Civil Engineering Systems (undergraduate course);
CVEN 3227-3.	Probability, Statistics and Decision for Civil Engineers (new undergraduate course);
CVEN 3505-3.	Structural Analysis (undergraduate course);
CVEN 3515-3.	Structural Design I (undergraduate course);
CVEN 3525-3.	Structural Engineering I (undergraduate course);
CVEN 5525-3.	Matrix Structural Analysis (graduate course);
CVEN 5555-3.	Structural Reliability (new graduate televised course);
CVEN 6845-3.	Structural Failure (new graduate course);
CVEN 7545-3.	Structural Optimization (new graduate course);
CVEN 7555-3.	Advanced Structural Reliability (new graduate course);
CVEN 7565-3.	Inelastic Theory of Structures (graduate course);
CVEN 7837-3.	Stochastic Processes and their Applications in Engineering (new graduate course).

CVEN 5555-3, *Structural Reliability*, is a new graduate televised course developed and presented every year from 1983 to 2005. In 1983 and 1985 it was broadcasted through the Center for Advanced Training in Engineering and Computer Science (CATECS)], The purpose of this course is to review and develop the principles and methods of structural reliability and formulate the bases for design to insure adequate safety and performance of elements and structural systems.

CVEN 6845-3, *Structural Failure*, is a new graduate course developed and presented in 1987. This course focuses on the causes, means of prevention, and most importantly, means for learning from structural failures.

CVEN 7545-3, *Structural Optimization*, is a new graduate course developed and presented in 1985, 1987, 1989, 1991, 1993, 1995, 1997, 1999, 2001, 2003, and 2006. This course provides a comprehensive treatment of structural optimization. The emphasis throughout is on problem formulation, relative merit of various numerical optimization techniques, and possible difficulties in applications.

CVEN 7555-3, *Advanced Structural Reliability*, is a new graduate course presented in 1992. This course is designed to formulate system reliability bases for design of buildings, bridges and offshore structures.

CVEN 7837-3, *Stochastic Processes and their Applications in Engineering* (with Dr. G. Fu), is a new graduate course developed and presented in 1988. This course introduces students to fundamental concepts of stochastic processes as well as their applications to a variety of problems in engineering, including the fields of structural engineering, engineering material modeling, fracture and fatigue phenomena, and Geotechnical engineering.

#### 13.2.3 Lehigh University, Bethlehem

CEE 211	Research Problems, Fall (2014, 2017), Spring (2017)
CEE 406	Reliability of Structural Components & Systems, Fall (2009, 2011, 2013, 2015, 2017, 2019, 2021, 2023)
CEE 431	Life-Cycle of Structural Systems, Fall (2008, 2016), Spring (2007, 2010, 2012, 2014, 2020, 2022, 2023)
CEE 432	Structural Safety and Risk, Fall (2007, 2020), Spring (2009, 2011, 2013, 2015, 2018)
CEE 433	Structural Optimization, Spring (2008, 2017, 2021), Fall (2010, 2012, 2014)
CEE 467	Advanced Topics in Structural Engineering, Spring (2024)
CEE 480	Independent Study, Spring (2017, 2018, 2020, 2021), Fall (2018, 2019, 2021)
CEE 481	MS Project, Fall (2014, 2016, 2018), Spring (2016)
CEE 491	Thesis (Spring 2019)
CEE 496	Life-Cycle Management and Sustainability of Structures, Fall (2018)
CEE 498	Hazards on Structures, Spring (2019)

### 13.3 Short courses taught

*National University of Science and Technology, Taipei, Taiwan* (2017) LIFE-CYCLE MANAGEMENT OF AGING STRUCTURES UNDER UNCERTAINTY (presented to practicing engineers, faculty, graduate and undergraduate students), November 9, 2017.

*National University of Science and Technology, Taipei, Taiwan* (2016) LIFE-CYCLE OF CIVIL INFRASTRUCTURE SYSTEMS (six lectures presented to faculty, graduate and undergraduate students), November 7, 8 and 9, 2016.

*Polytechnic University of Valencia, Valencia, Spain* (2016). PERFORMANCE OF AGING STRUCTURES CONSIDERING RELIABILITY, RISK, RESILIENCE AND SUSTAINABILITY (four lectures presented to faculty, graduate and undergraduate students), May 5, 10, 16 and 17, 2016.

*Technical University of Vienna, Vienna, Austria* (2015). LIFE-CYCLE OF CIVIL AND MARINE INFRASTRUCTURES (lectures presented at the International Summer School on Risk), August 19, 2015.

*University of Natural Resources and Applied Life Sciences, Vienna, Austria* (2015) MAINTENANCE, MANAGEMENT AND LIFE-CYCLE PERFORMANCE OF CIVIL INFRASTRUCTURE (short course for doctoral students), August 17, 2015.

*Polytechnic University of Timisoara, Timisoara, Romania* (2014). RELIABILITY, RISK, RESILIENCE, AND SUSTAINABILITY OF STRUCTURES UNDER NATURAL AND MAN-MADE HAZARDS (Erasmus Mundus Master Course SUSCOS\_M), June 13-17, 2014.

- Technical University of Vienna, Vienna, Austria* (2013). STRUCTURAL LIFE-CYCLE MANAGEMENT OF HIGHWAY BRIDGES AND SHIPS (two lectures), May 16, 2013.
- Université Paris-Est and French Institute of Science and Technology for Transport (IFSTTAR), Paris, France* (2011) MAINTENANCE, MANAGEMENT AND LIFE-CYCLE PERFORMANCE OF CIVIL ENGINEERING INFRASTRUCTURE : EMPHASIS ON STRUCTURAL APPLICATIONS (short course for doctoral students), July 11-13, 2011.
- University of Natural Resources and Applied Life Sciences, Vienna, Austria* (2010) RELIABILITY, OPTIMIZATION AND LIFE-CYCLE OF CIVIL ENGINEERING SYSTEMS (short course), May 30-June 3, 2011.
- University of Cape Town, Cape Town, South Africa* (2011) LIFE-CYCLE DESIGN, MAINTENANCE AND MANAGEMENT OF CIVIL ENGINEERING INFRASTRUCTURE (short course for civil and structural engineers), Johannesburg, March 7-8, 2011, and Cape Town, March 10-11, 2011.
- University of Stellenbosch, Stellenbosch, South Africa* (2010) STRUCTURAL RISK AND RELIABILITY: ISSUES TO BE RESOLVED (colloquium), September 9, 2010.
- University of Natural Resources and Applied Life Sciences, Vienna, Austria* (2010) RELIABILITY, OPTIMIZATION AND LIFE-CYCLE OF CIVIL ENGINEERING SYSTEMS (short course), June 21-24, 2010.
- National University of Science and Technology, Taipei, Taiwan* (2010) INDUSTRIAL SHORT COURSE ON INDUSTRIAL APPLICATIONS OF RELIABILITY ENGINEERING (short course), April 29- May 1, 2010.
- University of Florence, Florence, Italy* (2009) NATURAL AND MAN-MADE INDUCED HAZARDS (LLP/ERASMUS Short Course), July 9-18, 2009.
- Politecnico di Milano, Milan, Italy* (2009) LIFE-CYCLE DESIGN OF BRIDGES (short course), June 16-19, 2009.
- University of Natural Resources and Applied Life Sciences, Vienna, Austria* (2009) RELIABILITY, REDUNDANCY, ROBUSTNESS AND OPTIMIZATION OF CIVIL ENGINEERING SYSTEMS (short course), Vienna, Austria, June 11-15, 2009.
- Politecnico di Milano, Milan, Italy* (2008) LIFE-CYCLE DESIGN OF BRIDGES (short course), November 18-20, 2008.
- Universidad Autonoma del Estado de Mexico, Toluca, Mexico* (2008) OPTIMAL MAINTENANCE OF BRIDGES BASED ON RISK AND RELIABILITY (short course), Toluca, Mexico, August 11-13, 2008.
- University of Natural Resources and Applied Life Sciences, Vienna, Austria* (2008) RELIABILITY, OPTIMIZATION AND LIFE-CYCLE OF CIVIL ENGINEERING SYSTEMS (short course), Vienna, Austria, June 2-6, 2008.
- CIRIA Infrastructure Guidance Showcase* (2008), RISK AND RELIABILITY IN INFRASTRUCTURE ASSET MANAGEMENT, London, UK, March 5, 2008.
- Politecnico di Milano, Milan, Italy* (2007) ARCH BRIDGES (short course), June 21-22, 2007.
- Politecnico di Milano, Milan, Italy* (2006) CABLE-STAYED AND SUSPENSION BRIDGES (short course), June 21-23, 2006.
- Politecnico di Milano, Milan, Italy* (2005) SAFETY ASSESSMENT OF SUSPENSION BRIDGES AND LIFE-CYCLE OF CIVIL INFRASTRUCTURE: Accomplishments and Challenges (short course for doctoral students), July 20, 2005.
- Politecnico di Milano, Milan, Italy* (2005) BRIDGES AND VIADUCTS: Control, Analysis, Maintenance, Rehabilitation (short course), June 28-29, 2005.
- University of Minho, Guimaraes, Portugal* (2004) OPTIMIZATION OF BRIDGE MAINTENANCE STRATEGIES (short course), July 20, 2004.
- University of Rome, La Sapienza, Rome, Italy* (2004) MAINTENANCE OF BRIDGES (short course), June 29-30, 2004.
- Politecnico di Milano, Milan, Italy* (2004) BRIDGES AND VIADUCTS: Control, Analysis, Maintenance, Rehabilitation (short course), June 22-25, 2004.
- Bauhaus-University Weimar, Germany* (2000) TIME-VARIANT RELIABILITY OF DETERIORATING STRUCTURES (short course for doctoral students and researchers; two-hour lecture; 24 participants), September 5, 2000.
- Ruhr-University Bochum, Germany* (2000) LIFETIME-ORIENTED ANALYSIS AND DESIGN OF DETERIORATING STRUCTURES (short course for doctoral students and researchers; two-hour lecture; 30 participants), July 10, 2000.
- Swiss Federal Institute of Technology, Lausanne, Switzerland* (1998) SAFETY OF EXISTING BRIDGES (with S. Bailey, E. Bruehwiler, M. Hirt, A. Nussbaumer; short course for practicing engineers and researchers; twelve hours lectures; 26 participants), June 11 & 12, 1998.
- Technical University of Catalonia, Barcelona, Spain* (1998) STRUCTURAL RELIABILITY (course for the doctoral program in civil engineering, three three-hour lectures; 9 participants), March 17 - 20, 1998.
- University of Trento, Trento, Italy* (1995) NEW DIRECTIONS IN OPTIMIZATION OF STRUCTURAL SYSTEMS (short course for doctoral students; a series of three two-hour lectures; 4 participants), June 13-15, 1995; RELIABILITY AND OPTIMIZATION OF STRUCTURAL COMPONENTS AND SYSTEMS (short course; thirty hours lectures and computations; 10 participants), May 25 to June 9, 1995.
- Hanshin Expressway Public Corporation, Osaka, Japan* (1994) DAMAGE ASSESSMENT OF INFRASTRUCTURE SYSTEMS AND EVALUATION OF THEIR REMAINING LIFE (short course; three-hour lecture; 35 participants), July 15, 1994.
- National Defense Academy, Yokosuka, Kanagawa, Japan* (1989) SYSTEM RELIABILITY CONCEPTS AND APPLICATIONS (short course; a series of four four-hour lectures; 40 participants), October 24, 25, 26, and November 1, 1989.
- Swiss Federal Institute of Technology, Lausanne, Switzerland* (1989) APPLICATIONS OF RELIABILITY CONCEPTS AND TECHNIQUES IN STRUCTURAL AND GEOTECHNICAL ENGINEERING (short course; a series of five three-hour lectures; 25 participants), June 20, 22, 26 and 28, and July 4, 1989.
- University of Colorado, Boulder* (1985, 1986) LRFD'85: DESIGNING STEEL AND REINFORCED CONCRETE STRUCTURES USING THE LOAD AND RESISTANCE FACTOR APPROACH (with G.P. Luth; short course; 6 lectures; 24 participants (practicing engineers)), June 27-28, 1985; SURFACE EXCAVATIONS IN ROCK (with B. Amadei, R.E. Goodman, A. Brown and G. Scott; short course; 24 participants (practicing engineers)), April 16-18, 1986; STRUCTURAL FAILURE: APPLYING FAILURE EXPERIENCE IN STRUCTURAL DESIGN PRACTICE (with J.R. Janney and G.P. Luth; short course; 48 participants (practicing engineers)), June 21, 1986.
- University of Liège, Belgium* (1980) PROBABILISTIC METHODS IN STRUCTURAL ENGINEERING (short course; 4 lectures).
- Institute of Civil Engineering, Bucharest* (1978) STRUCTURAL SAFETY (short course; 6 lectures).

#### 13.4 Graduate theses and reports under supervision

*Institute of Civil Engineering, Bucharest (1969-73 and 1977-79)*. Supervision of about 30 graduation projects in civil engineering. *University of Colorado, Boulder (1983-2006)* and *Lehigh University (2006-present)*. Supervision of 50 PhD (37 as dissertation advisor and 13 as dissertation co-advisor) and 56 M.S. students.

#### **PhD students supervised as dissertation advisor or co-advisor**

- Ptacek, Lisa, "Non-destructive Methods for Quality Control and Condition Assessment of Concrete Structures," (Reviewer/Co-advisor), August 2024, PhD Thesis.
- Han, Xu, "Probabilistic Life-Cycle Assessment and Risk-based Maintenance Optimization of Deteriorating Structures and Bridge Networks," January 2023, PhD Thesis.
- Wu, Kexian, "Life-Cycle Design and Optimization Method for Engineering Structures Based on Reliability and Sustainability," (Co-advisor), June 2022, PhD Thesis.
- Cheng, Minghui, "Probabilistic Life-Cycle Management of Structural Systems considering Attitudes and Perceptions of Decision Makers and Machine Learning," January 2022, PhD Thesis; *CEE Department Nominee for the 2022 Stout Dissertation Award*.
- Binder, Fritz, "Damage Assessment and Expert System for the Repair of Corroding Reinforced Concrete Components," (Co-advisor), November 2021, PhD Thesis.
- Liu, Liang, "Probabilistic Assessment and Optimal Life-cycle Management considering Climate Change and Cost-Benefit Analysis: Applications to Bridge Networks and Ships," January 2021, PhD Thesis.
- Wang, Zhujun, "An Improved Life-Cycle Design Theory of Engineering Structures and Its Life-Cycle Cost Model," (Co-advisor), January 2019, PhD Thesis.
- Vidovic, Anja, "Assessment and Intervention Framework for Existing Concrete Bridges," (Co-advisor), October 2018, PhD Thesis.
- Zambon, Ivan, "Condition Prediction Models for the Performance Assessment and Management of Existing Concrete Bridges," (Co-Advisor), June 2018, PhD Thesis.
- Tu, Bing, "Study on Mechanical Behavior and Structural Reliability of Widened Concrete Bridges," (Co-advisor), June 2018, PhD Thesis.
- Cunha e Santos, Iviane, "Updating of Numerical Model of Cable Stayed Bridge Based on Experimental Data," (Co-advisor), May 2018, Ph.D Thesis.
- Mondoro, Alysso, "Uncertainty Quantification for Naval Ships and the Optimal Adaptation of Bridges to Climate Change," January 2018, PhD Thesis; *CEE Department Nominee for the 2014 Stout Dissertation Award*.
- Sabatino, Samantha, "Probabilistic Optimal Decision Making and Life-Cycle Management Considering Risk, Sustainability, and Utility - Applications to Bridges and Ships," May 2017, PhD Thesis.
- Yang, David Yinan, "Reliability-Based Design and Life-Cycle Management of FRP-Strengthened RC Structures," (Co-advisor), May 2017, PhD Thesis.
- Dong, You, "Risk, Resilience, and Sustainability-Informed Assessment and Management of Aging Structural Systems," May 2016, PhD Thesis.
- Li, Huile, "Dynamic Stress Dynamic Stress Analysis and Fatigue Performance Assessment of Bridges based on Vehicle-Bridge Coupling Vibration," (Co-advisor), May 2016, PhD Thesis.
- Harajli, Ali, "Modeling of Multi-Layered Protection Systems for Chloride-Induced Rebar Corrosion in Bridge Decks," (Co-advisor), May 2016, PhD Thesis.
- Soliman, Mohamed, "Life-Cycle Management of Civil and Marine Structures under Fatigue and Corrosion Effects," January 2015, PhD Thesis; *CEE Department Nominee for the 2014 Stout Dissertation Award*.
- Zhu, Benjin, "Redundancy, Reliability Updating, and Risk-Based Maintenance Optimization of Aging Structures," January 2015, PhD Thesis.
- Decò, Alberto, "Risk-Based Approach for Life-Cycle Assessment and Management of Bridges and Ship Structures," September 2013, PhD Thesis.
- Saydam, Duygu, "Reliability and Risk of Structural Systems under Progressive and Sudden Damage," September 2013, PhD Thesis; *CEE Department Nominee for the 2014 Stout Dissertation Award*.
- Kwon, Kihyon, "Reliability Assessment, Performance Prediction and Life-Cycle Management of Fatigue Sensitive Structures Based on Field Test Data", May 2011, PhD Thesis.
- Kim, Sunyong, "Integrated Life-Cycle Framework for Optimal Inspection, Monitoring and Maintenance under Uncertainty: Applications to Highway Bridges and Naval Ship Structures," May 2011, PhD Thesis.
- Okasha, Nader, "Integration of System-Based Performance Measures and Structural Health Monitoring for Optimized Structural Management under Uncertainty," September 2010, PhD Thesis.
- Messrvey, Thomas, "Integration of Structural Health Monitoring in the Design, Assessment and Management of Civil Infrastructure with Emphasis on Highway Bridges," February 2009, PhD Thesis.
- Hoffmann, Simon, "System Identification by Directly Measured Influence Lines," (Co-advisor), June 2008, PhD Thesis.
- Liu, Ming, "Bridge Network Lifetime Maintenance Optimization under Uncertainty," May 2006, PhD Thesis.
- Neves, Luis, "Life-Cycle Analysis of Bridges Considering Condition, Safety and Maintenance Cost Interaction," May 2005, PhD Thesis.
- Petcherdchoo, Aruz, "Maintaining Condition and Safety of Deteriorating Bridges by Probabilistic Models and Optimization," May 2004, PhD Thesis.
- Akgül, Ferhat, "Lifetime System Reliability Prediction for Multiple Structure Types in a Bridge Network," December 2002, PhD Thesis.
- Yang, Seung-le, "Predicting Lifetime Reliability of Deteriorating Systems with and without Maintenance," May 2002, PhD Thesis.
- Kong, Jung, "Lifetime Maintenance Strategies for Deteriorating Structures," May 2001, PhD Thesis.
- Gharabeh, Emhaidy, "Reliability and Redundancy of Structural Systems with Application to Highway Bridges," December 1999, PhD Thesis.
- Kepler, William, "Improved Assessment of Concrete Dams Using Acoustic Travel Time Technology," August 1999, PhD Thesis.
- Imai, Kiyohiro, "Reliability Analysis of Geometrically Nonlinear Structures with Application to Suspension Bridges," May 1999, PhD Thesis.
- Enright, Michael, "Time-Variant Reliability of Reinforced Concrete Girders Under Environmental Attack," December 1998, PhD Thesis.
- De Almeida, Adelino, "An Elastic – Perfectly Plastic Model of Connection Response for the Analysis and Design of PR Frames," August 1998, PhD Thesis.

Estes, Allen, "A System Reliability Approach to the Lifetime Optimization of Inspection and Repair of Highway Bridges," May 1997, PhD Thesis.

Chakravorty, Milanendu (Co-advisor, Major advisor Prof. G. Hearn), "Quantitative Condition Rating for Steel Girder Bridges," November 1995, PhD Thesis.

Lin, Kai, "Reliability-Based Life-Cycle Cost Design of Reinforced Concrete Girder Bridges," May 1995, PhD Thesis.

Diniz, Sofia, "Reliability of High Strength Concrete Columns," December 1994, PhD Thesis.

Lee, Yong, "Stochastic Finite Element Analysis of Structural Plain Concrete," December 1993, PhD Thesis.

Hendawi Samer, "Structural System Reliability with Applications to Bridge Analysis, Design and Optimization," November 1993, PhD Thesis.

Al-Harthy, Ali, "Reliability Analysis and Reliability-Based Design of Prestressed Concrete Structures," November 1992, PhD Thesis.

Iizuka, Minoru, "Time Invariant and Time Variant Reliability Analysis and Optimization of Structural Systems," May 1991, PhD Thesis.

Banafa, Ahmed, "Design Reliability for Estimating Cost of Pile Foundations: From Theory to Application," May 1991, PhD Thesis.

Napitupulu, Heinrich, "Optimum Design, Redundancy and Reliability Analysis of Truss Systems," July 1990, PhD Thesis.

Trautner, Janice, "Computer Modeling and Reliability Evaluation of Truss Bridges," April 1989, PhD Thesis.

Nakib, Rachid, "Reliability Analysis and Optimization of Multistate Structural Systems," June 1988, PhD Thesis.

Hong, Kappyo, "Assessment of Seismic Hazard Using A Probabilistic-Fuzzy Approach," December 1987, PhD Thesis.

#### MS students supervised as thesis or report advisor

Yuan, Cheng, "Life-Cycle Environmental Assessment of Stainless Steel and Carbon Steel Girder Bridges," January 2020, MS Thesis

Pascual-Ramos, Javier, "Life-Cycle of Bridges," (Co-advisor), January 2016, MS Thesis.

Liu, Jie, "Reliability Analysis of Highway Bridges under Extreme Events," January 2016, MS Report.

Martz, Benjamin, "Redundancy of Fracture Critical Steel Bridges using Reliability Methods," January 2016, MS Project.

Kim, Bubryur, "Life-Cycle Maintenance of Deteriorating Structures using a Probabilistic Approach," May 2015, MS Report.

Zhang, Lutong, "Reliability of Trusses under Corrosion," December 2014, MS Thesis.

Peiffer, R. Bryan, "Harmony Search Optimization and Damage Tolerance of Structural Systems," May 2014, MS Thesis.

Zou, Yingjun, "The Role of Structural Health Monitoring in Bridge Assessment and Management," May 2011, MS Thesis.

Zhang, Chao, "Progressive Collapse under Abnormal Load," May 2009, MS Thesis.

Marsh, Philip, "Reliability Model for Lifetime Multi-Objective Health Monitoring System Embedded in a Deteriorating Reinforced Concrete Bridge Deck," May 2006, MS Thesis.

Chamberlin, Brad, "Sensor Optimization in Structural Health Monitoring," May 2006, MS Report.

Buckmaster, Sonia, "Structural Health Monitoring with Emphasis on Sensor Technology and applications to Bridges," May 2006, MS Report.

Decò, Alberto, "Reliability-Based Performance Prediction and Maintenance Planning of Deteriorating Bridges," (in Italian), Tesi di Laurea in Ingegneria Civile (Thesis for Civil Engineering Degree), University of Bologna, Italy, October 2005 (Co-advisor Prof. Marco Savoia), MS Thesis

Maldonado-Gonzales, Rene, "Fire Protection Materials and Technologies in Steel Structures," August 2005, MS Report.

Matsumoto, Masato, "Development of Lifetime Maintenance Strategies for Highway Structures," May 2005, MS Thesis.

Saele, Thomas, "Predicting and Optimizing the Performance of Deteriorating Structures," May 2005, MS Thesis.

Goode, Jonathan, "Reliability Analysis of Fiber-Reinforced Composite Laminates for Load, Environmental, and Long -Term Loading Effects," September 2004, MS Thesis.

Subbarayan, Sundara, "Time-Based Optimal Maintenance Strategies for a Group of Reinforced Concrete Bridge Components," August 2004, MS Thesis.

Miller, Aaron, "Fiber Reinforced Polymers in Civil Infrastructure: An Emphasis on Prestressed Tendon Durability," May 2004, MS Thesis.

Omachi, Yoshiaki, "Lifetime Bridge Reliability Analysis under Fatigue," August 2002, MS Thesis.

Kawakami, Yoriko, "Life Prediction of Damaged Bridges," August 2002, MS Thesis.

Noh, Jinil, "Reliability Analysis of Fiber-Reinforced Polymeric Bridge Deck," August 2001, MS Thesis.

Hanai, Taku, "Probabilistic Analysis of Structures," December 1999, MS Thesis.

Miyake, Masaru, "Cost-Based Maintenance Strategies for Structures," May 1999, MS Thesis.

Frank, Dean, "Nondestructive Evaluation and Inspection of Structures," May 1999, MS Thesis

Somphoto, Ngoachintarak, May 1999, MS Exam.

Chen, Hung-Wei, "LRFD-Based Optimization of Composite Members," April 1997, MS Report.

Nichols, Matthew, "Time-Dependent Reliability of Deteriorating Structural Systems," April 1997, MS Report.

Genz, Daryl, "Reliability Based Optimization of Reinforced and Prestressed Concrete Beams," January 1997, MS Thesis.

Milner, David, "Reliability of Short and Slender Reinforced Concrete Beam - Columns," December 1996, MS Thesis.

Durmus, Korhan, "Reliability of Reinforced Concrete Columns under Cyclic Loading," December 1996, MS Thesis.

Lunke, Anne, "Reliability Index Associated with the Steel LRFD Code for Different Structures," October 1996, MS Report.

Iwaki, Ichiro, "Reliability of Reinforced Concrete Bridge Piers under Seismic Loads," January 1996, MS Thesis.

Stehler, Donald, "Safety of Truss Members and Systems," December, 1995, MS Thesis.

Johansson, Ola, "Failure Surfaces of Trusses Subjected to Various Material and Load Conditions," November 1995, MS Report.

Ide, Yutaka, "Reliability of Reinforced Concrete Columns under Random Loading," May 1995, MS Thesis.

Steine, Gert, "Probabilistic Structural Analysis of Simple Beams and Frames," May 1995, MS Report.

Wilshusen, Brec, "Reliability Index versus Safety Factor of Structures," May 1995, MS Report.

Pranet, Woravit, "Analysis and Design of Concrete Spherical Roof Domes," September 1994, MS Report.

Khandaker, Lutfur, "Load Path Dependent Response of Structural Systems," June 1994, MS Thesis.

Pytte, Erik, "Load Path and Load Definition Effects on Structural System Safety," June 1994, MS Thesis.

Kang, Hong, "Time Variant Reliability of Prestressed Concrete Anchors," November 1992, MS Report.

Chakravorty, Milanendu, "Reliability of a Portal Steel Frame with Flexible Connections," November 1991, MS Report.

Burgess, Christopher, "Realistic Modeling of Highway Bridges," May 1991, MS Thesis.

Yoshida, Keito, "Reliability and Redundancy of Structural Systems," July 1990, MS Thesis.

Teigen, Jan, "Probabilistic Finite Element Method for Concrete Structures," June 1990, MS Thesis.  
 Tan, Nurhan, "Probabilistic Modeling of Truck Loads on Interstate Highway Bridges," April 1990, MS Thesis.  
 Robson, Bradley, "Predicting Structural Response in Highway Bridges," April 1990, MS Thesis.  
 Gupta, Rishi, "Impact of Human Errors on Structural Safety," April 1989, MS Thesis.  
 Abuasaad, Assad, "Optimal Frame Design Using Linear Programming," September 1988, MS Report.  
 Scholfield, Mark, "Finite Element Analysis of Steel Girder Type Bridge Superstructures," August 1988, MS Report.  
 Yen, Tzong, "Structural Reliability and Human Errors," May 1987, MS Report.  
 Curley, James, "Effects of Damage and Redundancy on the Safety of Structural Systems," December 1986, MS Thesis.  
 Trautner, Janice, "Impact of Human Errors on the Reliability of Reinforced Concrete Beams," October 1986, MS Thesis.  
 Aburayyan, Naim, "Cost Optimization of Reinforced Concrete Frames," August 1986, MS Report.  
 Hiestand, Gregory, "Comparative Study of Various Types of Structural Steel Systems for High-Rise Buildings," April 1986, MS Thesis.  
 Nakib, Rachid, "Reliability-Based Analysis and Optimization of Ductile Structural Systems," January 1985, MS Thesis.

#### **PhD students currently under supervision**

Guimaraes, Hugo, PhD, Co-advisor, 2025 (expected graduation).  
 Hong, Weihao, PhD, Co-advisor, 2026 (expected graduation).

#### **Research experiences for undergraduates at Lehigh**

Javier, Alexis (Summer 2021); Golden, Trystan (Summer 2019, Summer 2020); Zirps, Melissa (Fall 2017, Spring 2018); Luster, Brian (Spring 2017); Predmore, Timothy (Spring 2017); Dudney, Sarah (Fall 2014).

#### **International/national awards received by former supervised graduate students based on their PhD research results**

Xu Han (PhD 2023), co-recipient of the Editor Choice for a paper published in ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering, Vol. 8. Issue 4, 2022; co-recipient of the 2024 ASCE Noble Prize.  
 Liang Liu (PhD 2020), co-recipient of the 2019 ASCE State-of-the-Art of Civil Engineering Award and of the 2022 ASCE Moisseiff Award.  
 Alysson Mondoro (PhD 2018), recipient of the 2017 ICOSSAR Registration Scholarship, and co-recipient of the 2019 ASCE State-of-the-Art of Civil Engineering Award.  
 David Y. Yang (PhD 2017), co-recipient of the 2022 ASCE Moisseiff Award, recipient of the 2024 IABMAS Young Research Prize.  
 You Dong (PhD 2016), recipient of the 2015 CERRA Student Recognition Award, recipient of the 2018 IABMAS Young Research Prize.  
 Benjin Zhu (PhD 2015), recipient of the 2013 ICOSSAR Registration Scholarship.  
 Mohamed Soliman (PhD 2015), co-recipient of the 2015 ASCE Noble Prize and the 2014 ASCE J. James R. Croes Medal, and recipient of the 2013 ICOSSAR Registration Scholarship.  
 Sunyong Kim (PhD 2011), recipient of the 2014 IABMAS Junior Research Prize, co-recipient of the 2014 ASCE J. James R. Croes Medal, recipient of the 2018 IALCCE Junior Research Prize, co-recipient of the 2022 ASCE Arthur M. Wellington Prize.  
 Nader Okasha (PhD 2010), recipient of the 2012 IALCCE Junior Research Award and the 2009 Nevada Medal for Distinguished Graduate Student Paper in Bridge Engineering, and co-recipient of the 2011 ASCE Arthur M. Wellington Prize.  
 Luis Neves (PhD 2005), recipient of the 2008 IABMAS Young Research Prize.  
 Jung Kong (PhD 2001), recipient of the 2009 IASSAR Junior Research Prize.  
 Kiyohiro Imai (PhD 1999), co-recipient of the 2003 ASCE Moisseiff Award.  
 Michael Enright (PhD 1998), co-recipient of the 2001 ASCE J. James R. Croes Medal.  
 Allen Estes (PhD 1997), recipient of the 2002 IABMAS Junior Research Prize.  
 You Dong (PhD 2016), recipient of the 2015 CERRA Student Recognition Award, recipient of 2018 IABMAS Young Research Prize.  
 Michael Enright (PhD 1998), co-recipient of the 2001 ASCE J. James R. Croes Medal.  
 Allen Estes (PhD 1997), recipient of the 2002 IABMAS Junior Research Prize.

#### **Research associates sponsored and supervised**

Dr. Jiyu Xin, Waseda University, Tokyo, Japan, 2022-23.  
 Dr. Yinan (David) Yang, Hong Kong Polytechnic University, Hong Kong, China, 2017-20.  
 Dr. Changqing Gong, University of Western Ontario, Ontario, Canada, 2018-19.  
 Dr. Yan Liu, University of Michigan, Ann Arbor, Michigan, USA, 2016-18.  
 Dr. Samantha Sabatino, Lehigh University, Bethlehem, Pennsylvania, USA, 2017.  
 Dr. You Dong, Lehigh University, Bethlehem, Pennsylvania, USA, 2016.  
 Dr. Mohamed Soliman, Lehigh University, Bethlehem, Pennsylvania, USA, 2015.  
 Dr. Giorgio Barone, University of Palermo, Palermo, Italy, 2012-13.  
 Dr. Sunyong Kim, Lehigh University, Bethlehem, Pennsylvania, USA, 2011.  
 Dr. Hao Tian, Tongji University, Shanghai, China, 2010-11.  
 Dr. Paolo Bocchini, University of Bologna, Bologna, Italy, 2009-11.  
 Dr. André Orcesi, French Public Works Research Laboratory, Paris, France, 2008-09.  
 Dr. Ming Liu, MWH, Denver, Colorado, USA, 2007-08.  
 Dr. Alfred Strauss, University of Natural Resources and Applied Sciences, Vienna, Austria, 2006-07.  
 Dr. Min Liu, University of Illinois at Urbana Champaign, Champaign, Illinois, USA, 2003-05.  
 Dr. Jung Sik Kong, University of Colorado, Boulder, Colorado, USA, 2001-03.  
 Dr. Emhaidy Gharaibeh, University of Colorado, Boulder, Colorado, USA, 2000.  
 Dr. Michael Enright, University of Colorado, Boulder, Colorado, USA, 1999.  
 Dr. Mircea Cohn, University of Waterloo, Canada, 1989 and 1990.



Dr. Rachid Nakib, University of Colorado, Boulder, Colorado, USA, 1988-89.  
Dr. Gongkang Fu, Case Western Reserve University, Cleveland, Ohio, USA, 1987-88.  
Dr. Marek Klisinski, Institute of Fundamental Technological Research, Warsaw, Poland, 1987-88.

**Visiting professors, post-doctoral fellows, and/or research associates hosted at the University of Colorado (1987-2006) and Lehigh University (2006-present)**

Prof. Takumi Ito, Visiting Scholar, Tokyo University of Science, Tokyo, Japan, May-July 2022.  
Mr. Carlo Giovani, Visiting Scholar, Politecnico di Milano, Milan, Italy, August 2021-October 2021.  
Ms. Kexian Wu, Visiting Pre-Doctoral Research Associate, Zhejiang University, Zhejiang, China, September 2019- September 2020.  
Prof. Yue Feng, Visiting Scholar, Hainan University, Hainan, China, sponsored by the China Scholarship Council, March 2019-March 2020.  
Prof. Arnold Yuan, Visiting Scholar, Ryerson University, Toronto, Ontario, Canada, October-November 2019.  
Dr. Erwin, National Taiwan University of Science and Technology, Taipei, Taiwan, December 2018-April 2019.  
Prof. Mitsuyoshi Akiyama, Visiting Professor, Department of Civil Engineering, Waseda University, Tokyo, Japan, sponsored by the Kajima Foundation, August 2018-September 2019.  
Ms. Iviane Cunha e Santos, Visiting Pre-Doctoral Research Associate, University of Brazilia, Brazilia, Brazil, Fall 2017.  
Mr. Yinan (David) Yang, Visiting Pre-Doctoral Research Associate, Hong Kong Polytechnic University, Hong Kong, China, January 2017-June 2017.  
Mr. Hugo Guimaraes, Visiting Pre-Doctoral Research Associate, University of Minho, Guimaraes, Portugal, January 2017-June 2017.  
Mr. Wei Fan, Visiting Scholar, Shandong Jianzhu University, Jinan, Shandong, China, January 2017-January 2018.  
Mr. Bing Tu, Doctoral Candidate, Hunan University, Changsha, Hunan, China, September 2016-October 2017.  
Prof. Xiaoming Wang, Chang'an University, Xi'an, Shanxi, China, September 2016-August 2017.  
Ms. Zhujun Wang, Doctoral Candidate, Zhejiang University, Hangzhou, Zhejiang, China, August 2016-August 2017.  
Mr. Huang Tang, Doctoral Candidate, Changsha University of Science and Technology, Changsha, Hunan, China, November 2015-November 2016.  
Prof. Fabio Biondini, Technical University (Politecnico) of Milan, Milan, Italy, November 2015.  
Mr. Javier Pascual-Ramos, M. Sc. Candidate, Technical University of Catalonia (UPC), Barcelona, Spain, August 2015-February 2016.  
Prof. Jianxin Peng, Changsha University of Science and Technology, Changsha, Hunan, China, July 2015-July 2016.  
Ms. Tatiana Garcia-Segura, Doctoral Candidate, Polytechnic University of Valencia, Valencia, Spain, February-May 2015.  
Mr. Alberto Colombo, Doctoral Candidate, Visiting Pre-Doctoral Research Associate, University of São Paulo, São Paulo, Brazil, October 2014-September 2015.  
Prof. Yong Zeng, Visiting Scholar, Chongqing Jiatong University, Chongqing, China, September 2014-September 2015.  
Mr. Yinan (David) Yang, Doctoral Candidate, Visiting Pre-Doctoral Research Associate, The Hong Kong Polytechnic University, Kowloon, Hong Kong, September 2014-August 2015.  
Mr. Ciaran Hanley, Doctoral Candidate, Visiting Pre-Doctoral Research Associate, University College Cork, Cork, Ireland, September 2014-October 2014.  
Mr. Zhiyi Yin, Doctoral Candidate, Visiting Research Scholar, Tongji University, Shanghai, China, October 2013-October 2015.  
Mr. Wei Pu, Doctoral Candidate, Visiting Research Scholar, Tongji University, Shanghai, China, October 2013-October 2014.  
Mr. Huile Li, Doctoral Candidate, Visiting Research Scholar, Beijing Jiatong University, Beijing, China, September 2013-September 2014.  
Dr. Tao Wu, Visiting Research Scholar, Chang'an University, Xi'an, China, June 2013-June 2014.  
Dr. Jie Wu, Visiting Research Scholar, Tongji University, Shanghai, China, January 2013-January 2014.  
Ms. Valeria Di Silvestri, MS. Candidate, Visiting Pre-Doctoral Research Associate, Politecnico di Milano, Milan, Italy, July-October 2012.  
Dr. Andrea Titi, Visiting Post-Doctoral Research Associate, Politecnico di Milano, Milan, Italy, August-September 2012.  
Dr. Banfu Yan, Visiting Research Scholar, Hunan University, Changsha, Hunan, China, August 2012-August 2013.  
Ms. Caroline Trimble, Research Intern, Bethlehem, PA, USA, June-August, 2012.  
Dr. Giorgio Barone, Post-Doctoral Research Associate, University of Palermo, Italy, supported by Research Funding of Prof. Dan M. Frangopol, March 2012-March 2013.  
Dr. Ling Liu, Visiting Research Scholar, Wuhan University of Science and Technology, Wuhan, Hubei, China, Supported by Award from Wuhan University of Science and Technology, September 2011-August 2012.  
Dr. Lucrezia Cascini, Visiting Research Scientist, University of Naples "Federico II", Supported by University of Naples "Federico II", August-September 2011.  
Dr. Alfred Strauss, Visiting Research Scholar, University of Natural Resources and Applied Sciences, Vienna, Austria, Post-Doctoral Researcher, sponsored by Research Funding of Prof. Dan M. Frangopol, August 2011, August 2012, February 2013, February 2014, August 2015, August 2019.  
Mr. Tim Zinke, Doctoral Candidate, Visiting Research Scientist, Karlsruhe University, Germany, Doctoral Researcher, sponsored by a research project on "Sustainability of Steel and Composite Bridges.", February-August 2011.  
Dr. Sunyong Kim, Visiting Research Associate, sponsored by Research Funding of Prof. Dan M. Frangopol, June-August 2011.  
Dr. Alfred Strauss, Visiting Research Scholar, University of Natural Resources and Applied Sciences, Vienna, Austria, Post-Doctoral Researcher, supported by Research Funding of Prof. Dan M. Frangopol, July-August 2010.  
Dr. Hao Tian, Visiting Research Scholar, Department of Civil Engineering, Tongji University, Shanghai, China, supported by Research Funding of Prof. Dan M. Frangopol, January 2010-January 2011.  
Prof. Jinzong Zhu, Tianjin University, Tianjin, China, supported by a scholarship awarded by the China Scholarship Council, September 2009-March 2010.  
Dr. Paolo Bocchini, Post-Doctoral Research Associate, University of Bologna, Italy, supported by Research Funding of Prof. Dan M. Frangopol, August 2009-August 2011.  
Ms. Paola Limonta, Visiting Researcher, supported by Technical University (Politecnico) of Milan, Italy, July-October 2009.  
Dr. Andre Orcesi, Visiting Researcher, French Public Works Research Laboratory (LCPC), Paris, France, Post-Doctoral Researcher,

supported by Research Funding of Prof. Dan M. Frangopol, November 2008-August 2009.

Mr. Victor Voiry, Visiting Scholar, Supported by French Institute of Advanced Mechanics, IFMA, Clermont-Ferrand, France, February-August 2009.

Prof. Mitsuyoshi Akiyama, Visiting Professor, Department of Civil Engineering, Tohoku University, Japan, supported by the Kajima Foundation, October 2008-September 2009.

Dr. Alfred Strauss, Visiting Scholar, University of Natural Resources and Applied Sciences, Vienna, Austria, Post-Doctoral Researcher, supported by Research Funding of Prof. Dan M. Frangopol, July 2008-September 2008.

Dr. Ruan Xin, Visiting Research Scientist, Department of Civil Engineering, Tongji University, Shanghai, China, supported by Tongji University, March 2008-April 2009.

Dr. Ming Liu, Post-Doctoral Research Associate, supported by Research Funding of Prof. Dan M. Frangopol, November 2007-August 2008.

Dr. Wenliang Lu, Visiting Scholar, Associate Professor, School of Civil Engineering and Architecture, Beijing Jiaotong University, China, supported by funding from Chinese Government, September 2007-February 2008.

Mr. Nils Marquart, Visiting Scholar, supported by the Technical University Braunschweig, Germany, April-August 2007.

Dr. Alfred Strauss, Post-Doctoral Researcher, supported by Research Funding of Prof. Dan M. Frangopol, December 2006-September 2007.

Dr. Fabio Biondini, Associate Professor, supported by Technical University (Politecnico) of Milan, Italy, November-December 2006.

Dr. Alfred Strauss, Visiting Scholar, University of Natural Resources and Applied Sciences, Vienna, Austria, May-August 2006.

Mr. Hiroshi Hattori, Doctoral Candidate, Visiting Scholar, Kansai University, Osaka, Japan, April 2006-April 2007.

Mr. Till Wachholz, Visiting Scholar, sponsored by the Technical University Braunschweig, Germany, January-July 2006.

Dr. Kei Kawamura, sponsored by the Japan Ministry Education, Yamaguchi University, Ube, Japan, January-February 2006.

Prof. Joan Casas, Technical University of Catalonia, Barcelona, Spain, April-July 2005.

Mr. Alberto Decò, Visiting Scholar, University of Bologna, Italy, February 2005-August 2005.

Mr. Koichiro Nakatsu, Visiting Scholar, Kansai University, Osaka, Japan, May 2005-April 2006.

Ms. Saeri Fukuhara, Visiting Scholar, Kansai University, Osaka, Japan, February 2005-February 2006.

Mr. Takahiro Kameda, Visiting Scholar, Kansai University, Osaka, Japan, December 2004-February 2005.

Ms. Masae Erami, Visiting Scholar, Kansai University, Osaka, Japan, December 2004-February 2005.

Prof. Hitoshi Furuta, Visiting Professor, Kansai University, Osaka, Japan, August 2003-October 2004.

Mr. Christian Koenig, Visiting Scholar, sponsored by the Technical University Braunschweig, Germany, June 2004-September 2004.

Mr. Jacques Peugeot, Visiting Scholar, sponsored by French Institute of Advanced Mechanics, IFMA, Clermont-Ferrand, France, July 2004-January 2005.

Prof. Christian Bucher, Visiting Professor, Institute of Structural Mechanics, Bauhaus-University Weimar, Germany, April-June 2004.

Dr. Min Liu, Research Associate, sponsored by the National Science Foundation, October 2003-June 2005.

Mr. Sebastian Wolff, Bauhaus-University Weimar, Germany, August 2003-July 2004.

Mr. Luca Sgambi, Doctoral Candidate, University of Rome "La Sapienza", Italy, July-August 2003.

Mr. Luciano Catalo, Doctoral Candidate, University of Rome "La Sapienza", Italy, July-August 2003.

Prof. Paulo Cruz, Department of Civil Engineering, University of Minho, Guimaraes, Portugal, September 2002.

Dr. Xiaoming Wang, sponsored by the Australian Academy of Sciences, Senior Research Scientist, Infrastructure Systems Engineering, CSIRO, Melbourne, Australia, July and August 2002.

Ms. Francesca Bortot, Doctoral Candidate, sponsored by the University of Trento, Italy, August-September 2002.

Dr. Kei Kawamura, sponsored by the Japan Ministry Education, Yamaguchi University, Ube, Japan, March 2002-March 2004.

Mr. David Guillot, sponsored by French Institute of Advanced Mechanics, IFMA, Clermont-Ferrand, France, February-July 2002.

Mr. Luis Neves, Doctoral Candidate, sponsored by the University of Minho, Guimaraes, Portugal, September 2001-December 2004.

Dr. Han Kim, Seoul National University, Postdoctoral Fellow sponsored by Korea Science and Engineering Foundation (KOSEF), Seoul, Korea, May 2001-November 2002.

Prof. Hideaki Nakamura, sponsored by the Japan Ministry Education, Yamaguchi University, Ube, Japan, November 2001.

Dr. Fabio Biondini, Postdoctoral Fellow sponsored by Technical University (Politecnico) of Milan, Italy, August-September 2001, August 2002, August 2003, August 2004, August 2005.

Dr. Jung Kong, Research Associate, sponsored by the National Science Foundation and Air Force Office of Scientific Research, July 2001-July 2003.

Mr. Sebastien Recek, sponsored by French Institute of Advanced Mechanics, IFMA, Clermont-Ferrand, France, January-July 2001.

Prof. Mark Stewart, University of Newcastle, Australia, August 2000.

Dr. Emhaidy Gharaibeh, Postdoctoral Research Assistant, Mu'tah University, Al-Karak, Jordan, January-June 2000.

Prof. Matsuho Shigeyuki, Anan National College of Technology, sponsored by Japan Ministry of Education, September-December 1999.

Prof. Tsuyoshi Takada, University of Tokyo, sponsored by Japan Ministry of Education, August-September 1999.

Dr. Michael Enright, Postdoctoral Research Assistant, Southwest Research Institute, San Antonio, Texas, January-April 1999.

Dr. Christian Frier, Department of Building Technology and Structural Engineering, University of Aalborg, Denmark, September 1997-December 1997.

Prof. Giuliano Augusti, University of Rome "La Sapienza", Italy, sponsored by NATO, April 1997.

Prof. Joergen Amdahl, Faculty of Marine Technology, Norwegian University of Science and Technology (NUST), Trondheim, Norway, Visiting Professor on Sabbatical Leave from NUST, August 1996-July 1997.

Dr. Matsuho Shigeyuki, Department of Civil Engineering, Tottori University, Tottori-shi, Japan, sponsored by Japanese Government Fellowship, September 1996-July 1997.

Prof. Marcello Ciampoli, University of Rome "La Sapienza," Italy, sponsored by NATO, October 1996 and August 1999.

Dr. Fulvio Tonon, University of Padova, sponsored by Italian Government, August 1996.

Dr. Cesar Minguiillon, Department of Civil Engineering, Technical University of Catalonia, Barcelona, Spain, Visiting Research Associate sponsored by the Technical University of Catalonia, October 1994 - December 1994.

Mr. Yutaka Ide, Takenaka Corporation, Tokyo, Japan, Visiting Research Associate sponsored by Takenaka Corporation, June 1993 - August 1993.

Prof. A.M. Hasofer, The University of New South Wales, Kensington, Australia, Visiting Research Professor sponsored by an Australian

Grant, July 1992.

Dr. Ebrahim Sanaei, Iran University of Science and Technology, Tehran, Iran, Visiting Research Associate sponsored by the Iranian Government, September 1991-September 1992.

Dr. Satoshi Katsuki, National Defense Academy, Yokosuka, Japan, Visiting Research Associate sponsored by the National Defense Academy of Japan, August 1991-August 1993.

Dr. Jan Teigen, Det Norske Veritas, Veritec, Hovik (Oslo), Norway, Visiting Research Assistant sponsored by Royal Norwegian Council for Scientific and Industrial Research (NTNF) and Det Norske Veritas (DNV), Norway, August 1989 - August 1990.

Dr. Petr Hajek, Czech Technical University, Prague, Czechoslovakia, Research Visitor sponsored by International Research and Exchanges Board (IREX), U.S.A., August 1989-November 1989.

Prof. Mircea Cohn, University of Waterloo, Canada, Visiting Research Professor sponsored by NSF Grant, August 1989 - September 1989 and July 1990-August 1990.

Dr. Mark Marley, University of Trondheim, Norway, Professional Research Associate sponsored by Royal Norwegian Council for Scientific and Industrial Research (NTNF), the Norwegian State Oil Company (Statoil), and the University of Trondheim, Norway, May 1989-August 1989.

Dr. Rachid Nakib, Post-doctoral Research Associate sponsored through FHWA Contract, July 1988-July 1989.

Prof. Gongkang Fu, Wayne State University, Research Associate sponsored through NSF Grant, June 1987-August 1988.

Prof. Marek Klisinski, Lulea University of Technology, Research Associate sponsored through NSF Grant, March 1987-July 1988.

Mr. Kenji Ikejima, Osaka Gas Corporation, Japan, Professional Research Associate sponsored by Osaka Gas Corporation, Japan, August 1986-August 1987.

### 13.5 Lehigh University Activities (2006-present) and University of Colorado at Boulder Activities (1983-2006)

Initiator and Organizer of the *Fazlur R. Khan Distinguished Lecture Series* at Lehigh University (Spring 2007-present) including 64 Distinguished Speakers: Mark Sarkisian (February 2007), Man-Chung Tang (March 2007), W. Gene Corley (April 2007), Richard Tomasetti (February 2008), Jeremy Isenberg (March 2008), John W. Fisher (April 2008), Leslie E. Robertson (February 2009), William F. Baker (March 2009), Bruce R. Ellingwood (April 2009), Zdenek P. Bazant (February 2010), Ron Klemencic (March 2010), John E. Breen (April 2010), David Scott (February 2011), Chris Poland (April 2011), David Billington (September 2011, at Princeton University), Masayoshi Nakashima (September 2011), Ross B. Corotis (February 2012), Sharon L. Wood (March 2012, Theodore V. Galambos (April 2012), R. Shankar Nair (February 2013), John M. Kulicki (March 2013), Alfredo H-S, Ang (April 2013), James R. Harris (February 2014), Jon D. Magnusson (March 2014), Charles H. Thornton (April 2014), William Pedersen (February 2015), Glenn R. Bell (March 2015), Peter Marti (April 2015), Ronald Hamburger (March 2016), John Zils (April 2016), Jin-Guang Teng (April 2016), Eugen Bruhwiler (February 2017), Larry Griffith (March 2017), Peter Weismantle (April 2017), Surendra Shah (February 2018), Robert Sinn (March 2018), Yozo Fujino (April 2018), Kishor C. Mehta (February 2019), Sawteen See (March 2019), Karl H. Frank (April 2019), Jon Pickard (February 2020), Aftab Mufti (October 2020), Gregory Deierlein (November 2020), Jeanne Gang (February 2021), Jack Moehle (March 2021), Pui-Shum (Benson) Shing (April 2021), Phillip Gould (October 2021), Richard Sause (November 2021), Stephen Ressler (February 2022), Adrian Smith (March 2022), Mitsuyoshi Akiyama (April 2022), Billie F. Spencer Jr. (November 2022), Thomas D. O'Rourke (February 2023), Guy Norderson (April 2023), Kumares Sinha (April 2023), Anne Kiremidjian (October 2023), Jerome Lynch (December 2023), Armen Der Kiureghian (February 2024), Ahsan Kareem (March 2024), Mark Stewart (May 2024), Joan Casas (September 2024), Allen Estes (October 2024), Michel Ghosn (October 2024), and James Ricles (November 2024).

Founder and Director of the Computational Laboratory for Life-Cycle Structural Engineering at Lehigh University (Fall 2006-present).

Chair of the Fritz Engineering Electronic Library Committee (2006-09).

Member of the Institute for Data, Intelligent Systems, and Computation (I-DISC), (2018-present).

Member of the Institute for Cyber-Physical Infrastructure and Energy (I-CPiE), (2018-present).

Member of Search Committee for the Endowed Anderson Chair Position in Chemical Engineering (Spring 2009-Fall 2019), resulting in the hiring of Dr. Elsa Reichmanis, NAE).

Manage the Promotion Case of Dr. Muhannad Suleiman from Associate Professor to Professor (Summer & Fall 2020).

Member of Search Committee for the Geo-Systems Position in CEE Department (Fall 2009-Spring 2010), resulting in the hiring of Dr. Muhannad Suleiman.

Member of Search Committee for the Structures Position in Computational Simulation of Infrastructure in CEE Department (Fall 2010-Spring 2011), resulting in the hiring of Dr. Paolo Bocchini.

Member of Search Committee for the Environmental Engineering Position in CEE Department (Fall 2011-Spring 2012), resulting in the hiring of Dr. John Fox.

Member of the Honorary Degrees Committee, Lehigh University Standing Committee (Fall 2017-Fall 2019).

Member of Graduate Committee (Fall 2007 to Fall 2013, Spring 2015, Fall 2016-present).

College Promotion Committee, P.C. Rossin College of Engineering and Applied Science (Fall 2008-Spring 2014).

Website of CEE Department (2007-09).

Advisor of First Year Undergraduates in Engineering and Applied Sciences (Fall 2008-Spring 2009; Fall 2010-Spring 2011).

Initiator and Organizer of the Khan Chair Joint Meetings Structural Engineering – Architecture (Fall 2006-15).

Co-Principal Investigator for the Chinese Rainbow Bridge Project at Lehigh University (2009-13).

Acting Chair of the Department, when the Chair was out of town in several occasions during 2003.

Ad Hoc Computer Facilities Committee, Department (1985-87).

Ad Hoc Spatial Visualization Committee, Department (1991-92).

Centers Review Committee (1992).

Chair of Graduate Committee, Department (1989-90; 1993-94).

Chair of Search Committee for a Structural Engineering Position (1994).

Chair of Search Committee for the Chair of Civil Engineering Department (1989-90).

Co-editor, Departmental Newsletter (1988).

Computational Mechanics Group, Department (1985-87).

Co-Organizer of the International Roundtable on Bridge Management Systems sponsored by Richardson Fund (1999).  
 Curriculum Committee, Department (1983-85).  
 Education and Development Committee (1997-98).  
 Executive Committee of the Department of Civil Engineering (2000-05).  
 First-Level Review Committee, College (1994-96).  
 Graduate Committee, Department (1986-90, 1992 -95).  
 Hiring Priority Committee (1992).  
 Ibero-Latin American Studies Center, University (1987-89).  
 Integrated Teaching Laboratory, Controls Focus Group, College (1994).  
 Internal Review Committee for Program Review of the Department of Chemical Engineering, University (1996-97).  
 Member of the Self-Study Program Review Committee, Department (1988, 2002).  
 Operations Committee, Department (1990-92, 1995-97, 1998, 2005).  
 Organizer of seven Departmental Arthur Boase Lectures [1985 (James Yao), 1987 (Fred Moses), 1994 (Torgeir Moan), 1995 (James Cooper), 1996 (John Fisher), 1999 (Steven Chase), and 2003 (Bruce Ellingwood)].  
 Organizer of two Richardson Lectures (April 1994 and April 1998).  
 Personnel Advisory Committee to the President's Office, University (1989-91).  
 Personnel Committee, Department (1988-2000).  
 Post-Tenure Review Committee, Department (1988-89; 2001).  
 Preceptor Program, College (1988-90; 1991-92).  
 Quality Council Pilot Project on Internal Communication, College (1993).  
 Search Committee, Department [Construction (1985-186, 1988, 1999, 2000-01), Structural Engineering (1989, 1994, 2003, 2004), Water (1999) and Department Chair (1989-90) Positions].  
 Self-Study Committee of the Department of Civil, Environmental, and Architectural Engineering (2002-03).  
 Seminar Committee Richardson Structural Engineering Program, Department (1984-87).  
 Student-Faculty Communication Committee, Department (1994).  
 Teaching Committee, Department (1992-93).  
 Undergraduate Student Advising, Department (1983-99).  
 University of Colorado Statistics Group, Department Representative (1997-2002).

## 14 INDUSTRIAL AND CONSULTING EXPERIENCE

### 14.1 Appointments in industry

1987 (July) - ( <i>full time</i> )	Structural Safety Specialist, Concrete Dams Branch, U.S. Department of the Interior, Bureau of Reclamation, Denver, Colorado
1979 (September) - 1983 (March) ( <i>full time</i> )	Project Engineer, A. LIPSKI Consulting Engineers Engineering of Underground Structures, Brussels, Belgium
1977 (January) - 1979 (August) ( <i>part time</i> )	Senior Engineer, Institute for Planning and Design of Building Structures, Bucharest, Romania
1970 (September) - 1974 (January) ( <i>part time</i> )	Design Engineer, Institute for Planning and Design of Building Structures, Bucharest, Romania

### 14.2 Major industrial and consulting activities

*National and international consulting on safety analysis of existing structures, bridge reliability and management, infrastructure resilience, and geotechnical reliability. Major activities covered a broad range of areas:*

- In charge, as Expert for the Swiss National Science Foundation (SNSF) – National Research Program NRP-81 on “Ecological and Social transition for the built environment,” to review proposals and participate at the evaluating meeting, 2024.
- In charge, as Member of the Advisory Committee of the International Joint Research Center for Resilient Infrastructure (ICRI), hosted by Tongji University, to advance research in infrastructure resilience, 2021-present.
- In charge, as an Associate Member of the Resilience Engineering Research Group of the University of Nottingham, England, to advance research in civil infrastructure resilience, 2021-present.
- In charge, as a member of the NRC/TRB Expert Group to advise the FHWA Infrastructure Research and Technology Program regarding priorities in terms of the technical tools and products that state departments of transportation need to maintain and improve the performance of their pavements, bridges, and other structures, including the review of Long-Term Infrastructure Program (LTIP) associated with Long-Term Bridge Program (LTBP) and Long-Term Pavement Program (LTPP), October 2017-October 2020.
- In charge, as member of the Advisory Panel of the project Sustainable Marine Infrastructure Enabled by the Innovative Use of Seawater Sea-Sand Concrete and Fiber-Reinforced Polymer Composites (Project Coordinator: Prof Jin-Guang Teng) to sustainability of marine infrastructure, Research Grants Council (RGC), Hong Kong, 2019-23.
- In charge, as inaugural member of the International Academic Steering Committee of the International Institute of Smart Structure Systems and Informatics (ISSSI) at Zhejiang University, China, to advance research in life-cycle civil engineering, 2019-23.
- In charge, as the official discussor of Committee on Structural Longevity during the 20<sup>th</sup> International Ship and Offshore Structures Congress to report on advances on longevity of marine structures, Liège, Belgium & Amsterdam, The Netherlands, September 9-13, 2018.
- In charge, as member of the International Joint Research Center for Engineering Reliability and Stochastic Mechanics (CERSM), hosted by Tongji University, Shanghai, China, to advance research on stochastic life-cycle engineering, July 2017- present.
- In charge, as an expert in life-cycle civil engineering, to provide input on two projects funded by the Australian Research Council and

- Metro Melbourne Rail to the Royal Melbourne Institute of Technology, Melbourne, Australia, February 2017.
- In charge, as the only expert from North America in the Management Committee Observer Group (represented by an expert per continent) of the Transport and Urban Development COST Action TU1406 (Quality specifications for roadway bridges, standardization at a European level (Bridge Spec)) to observe the Action evolution and provide input, April 2015-April 2019.
- In charge, as expert for the FHWA Long-Term Bridge Performance (LTBP) Project on Bridge Health Index, to provide input to Pennoni Associates for aspects related to bridge performance indicators, April 2014-18.
- In charge, as member of the NRC/TRB Expert Task Group on Long-Term Bridge Performance (LTBP) Special Activities (BSPEC). To provide input on the technical issues encountered in the implementation of LTBP's activities, September 2015-16. BSPEC is an advisory committee of the National Academy of Sciences, Engineering, and Medicine, within the Transportation Research Board.
- In charge, as member of the TRB Long-Term Bridge Performance (LTBP) Expert Task Group on Traffic and Truck Weights (BT&T), to provide peer review of aspects of the planning and implementation of the LTBP research effort strategy that pertains to the measurement of the traffic loadings to which bridges are subjected, April 2012-July 2015. BT&T is an advisory committee of the National Academy of Sciences, Engineering, and Medicine, within the Transportation Research Board.
- In charge, as member of the FHWA Review Panel of the Research Project "Load & Resistance Factor Rating (LRFR) Procedures for Response-Based Rapid Load Rating of Steel Bridges," to provide reviews on milestones throughout the project schedule, 2011-13.
- In charge, as chair of the Project Advisory Panel (PAP) of coordinating the technical review of the PAP members for the Strategic Planning Document of the Applied Technology Council (ATC) project, ATC-81, Development of Industry Foundation Classes (IFCs) for Structural Concrete Components, under contract to the ACI Foundation (ACIFdn), January 2010-December 2010.
- In charge, as consultant to National Cooperative Highway Research Program (NCHRP 12-86: Bridge Safety and Redundancy), subcontract to HNTB Corporation by the City University of New York, to review and identify shortcomings of the current approach, 2010-13.
- In charge, as member of the Second Strategic Highway Research Program (SHRP 2) Renewal Technical Expert Task Group (T-ETG) on Bridges for Service Life beyond 100 Years: Service Limit States Design (R19-B), to review the progress of the project and advise the Program Officer on the Technical issues encountered, appointed by the Transportation Research Board Executive Committee, October 2009 – December 2013.
- In charge, as advisory board member for the Federal Highway Administration (FHWA) Long-Term Bridge Performance (LTBP) program to supervise the research effort associated with this program. The LTBP program is an ambitious 20-year research effort that is strategic in nature with specific short- and long-term goals. FHWA considers this their flagship program for bridge performance research and has committed up to \$25.5 million for the first five years of the study, 2008-09.
- In charge, as consultant to The State University of New Jersey (RUTGERS) to advance understanding of bridge life-cycle performance for the Federal Highway Administration (FHWA) Long-Term Bridge Performance (LTBP) program, 2009-12.
- In charge, as member of the International Advisory Committee for the Taiwan Building Technology Center (TBTC) of the National Taiwan University of Science and Technology (NTUST) to supervise part of the research related to the project on Frontier Technologies for Enhancing the Reliability of Critical Infrastructures, 2009-13.
- In charge, as distinguished scientist and member of the International Advisory Board of the European Union funded project Smart Management for Sustainable Human Environment (SmartEN Marie Curie ITN), coordinated by Cyprus University of Technology, to supervise the activity related to reliability and management of civil infrastructure, 2009-13.
- In charge, as an international expert and scientific adviser, to supervise the SEDUREC (Spanish acronym for BUILDING STRUCTURE SAFETY And DURABILITY) Project, subsidized by the Spanish Ministry of Education and Science as part of the Consolider-Ingenio 2010 Program, March 2008- March 2013.
- In charge, as member of the Project Advisory Panel, of providing strategic guidance for successful completion of the Applied Technology Council (ATC) project, ATC-75 project, *Develop Industry Foundation Classes (IFCs) for Structural Components*, under contract to the Charles Pankow Foundation (CPF), September 2007- September 2009.
- In charge of life-cycle cost analysis for the project "Improved Corrosion Resistant Steel for Highway Bridge Construction," contract DTFH61-07-C-00008 between Mittal Steel USA and DOT-FHWA, 2007-08.
- In charge, as panel member, of the expert/peer review of the Bridge Management Information System (BMIS) at the Turner-Fairbank Research Center (TFHRC), Federal Highway Administration, McLean, VA, June 18-21, 2007.
- In charge of reliability aspects related to long term monitoring of a movable bridge, contract between University of Central Florida and Florida Department of Transportation, April 2007- April 2009.
- In charge of the peer review of the Oregon Department of Transportation Study on Bridge Shear, Member of the National Research Council (NRC) – Transportation Research Board (TRB) Committee for the Review of the Oregon Department of Transportation Study on Bridge Shear, February 2005- July 2005.
- In charge of coordinating the working group on Bridge Life-Cycle Cost-Benefit Value, Federal Highway Administration, February 2005- February 2006.
- In charge of developing methods for optimal bridge and asset management based on condition, safety and cost, Dutch Ministry of Transport, Public Work and Water Management (Rijkswaterstaat), Utrecht, The Netherlands, 2004-06.
- In charge of optimizing maintenance actions on deteriorating structures in cooperation with the Dutch Ministry of Transport, Public Work and Water Management (Rijkswaterstaat), Utrecht, The Netherlands, August 2003.
- In charge of technical advising the development of a life-cycle cost analysis system for the design and rehabilitation of steel bridges in Korea, Korea Ministry of Construction and Transportation, Seoul. This project is a cooperative research among KICT (Korea Institute of Construction Technology), RIST-POSCO (Research Institute of Steel Technology), Sung-Hwa Inc., and Hanyang University (Prof. Hyo-Nam Cho), Seoul, Korea, 2002-05.
- In charge of developing the life-cycle cost modeling framework assisting for implementing reliability algorithms for corrosion fatigue, STI Technologies for Department of Defense – Air Force, SBIR, OSD 01-M09, 2002.
- In charge of developing preventative maintenance strategies for bridge groups, Highways Agency, London, U.K., 2001-03.
- In charge of assisting the Highways Agency, London, for the revision of the bridge assessment rules in U.K. based on whole life performance, London, U.K., 1996-02.
- In charge of developing optimal maintenance strategies for different bridge types, Highways Agency, London, U.K., 1998-2000.

In charge of assisting Tokyo Electric Power Company and Japan Systems Research Institute in the development of life-cycle strategies for civil structures, Tokyo, Japan, 2000-01.

In charge of statistical analysis of nondestructive evaluation data for several bridges, Regional Transportation District, South Santa Fe Drive light-rail project in Denver, Colorado, Parsons Transportation Group, Inc., 2000.

In charge of developing optimal life-cycle cost strategies for civil engineering infrastructures, Japan Ministry of Education, Tokyo, Japan, 1998-2001.

In charge of assisting the Highways Agency, London, for the revision of the bridge assessment rules in U.K. based on whole life performance, London, U.K., 1996-2002.

In charge of formulating redundancy constraints in assisting in the calibration of the Canadian Highway Bridge Design Code, Ministry of Transportation of Ontario, Toronto, 1994.

In charge of assisting the Principal Investigator on NCHRP Project 12-33 "Development of a Comprehensive Bridge Specification and Commentary" in the development of a recommended bridge specification, Code Calibration Task Group, Washington, D.C., 1989-92.

In charge of the application of probabilistic methods in analysis and design of earth slopes (joint research CU Boulder - Swiss Federal Institute of Technology, Lausanne, Switzerland), 1987-92.

In charge of the development of a probabilistic methodology for safety assessment of existing concrete dams. This study was supported by the U.S. Department of the Interior, Bureau of Reclamation, Denver, Colorado, 1987.

In charge of the safety analysis of a prestressed concrete bridge in Denver (Meheen Engineering Corporation, Denver, Colorado), 1984.

In charge of the design of The South Subway Station (a three-level station below a 90m-wide viaduct) in Brussels, Belgium, 1979-83.

In charge of the safety analysis of different types of buildings and other structures (industrial, agricultural and residential) damaged in Romania by the strong earthquake of March 4, 1977. The aim was to re-evaluate the reliability of these structures so that rational decisions can be made concerning any necessary repairs, replacements, demolitions, or other maintenance or rehabilitation actions, 1977-79.

In charge of the design of different types of civil and industrial buildings (residential and commercial buildings, public halls, libraries, tunnels, silos, tanks, etc.). Earthquake-resistant design of reinforced concrete buildings, 1969-79.

## 15 RESEARCH INTERESTS

Dr. Frangopol is a leading international figure in life-cycle performance, maintenance, reliability and multi-criteria optimization of structural systems and networks, whose work has had a significant impact on structural engineering evidenced by (a) an h-index of 104, i10-index of 485, and over 40,000 citations (Google Scholar, September 26, 2024); (b) fifth rank in the list of "top authors in civil engineering" for the last 10 years, and seventh rank in the list for all years (Microsoft Academic, June 2015); (c) an h-index of 84 based on 26,322 citations of 903 documents (Scopus, September 24, 2024); (d) an h-index of 72 based on 19,251 citations of 689 publications (Web of Science September 24, 2024); and (e) an h-index of 82 based on 27,522 citations, and research interest score of 12,605 (Research Gate, September 24, 2024). Ranked as the 10th most-cited civil engineering author in the August 2019 Stanford University worldwide citation survey published in PLOS, based on the Scopus citation data for 6 million scientists in 22 major fields and 176 sub-fields; the survey calculated citations deposited in Mendeley Data during the period 1996-2018 and ranked and sorted 100,000 scientists by a composite point index excluding self-citations. 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; position in the ranking was based on a meticulous examination of nearly 11,000 scientists on Google Scholar and Microsoft Academic Graph by December 6<sup>th</sup> 2021.

According to ASCE (2010) "*Dan M. Frangopol is a preeminent authority in bridge safety and maintenance management, structural systems reliability and life-cycle 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.*" 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).

ASCE Dan M. Frangopol Medal for Life-Cycle Engineering of Civil Structures, officially instituted by action of the ASCE Board of Direction on October 18, 2023.

Dr. Frangopol main research and professional interests involve the development and application of probabilistic, risk and optimization concepts and methods to civil and marine engineering, including: structural reliability and probabilistic mechanics; life-cycle cost analysis and design; risk-based assessment, design, and multi-criteria life-cycle optimization of structures and infrastructure systems; structural health monitoring; probabilistic fatigue and fracture mechanics; inspection, monitoring, repair, and rehabilitation of deteriorating structures; life-cycle performance maintenance and optimum management of structures and distributed infrastructure under extreme events (earthquakes, tsunamis, hurricanes, and floods); risk-based optimum decision-making; multi-hazard risk mitigation; infrastructure sustainability and resilience to disasters; climate change adaptation; and geotechnical reliability.

## 16 RESEARCH EXPERIENCE

### 16.1 Research appointments and fellowships

2024 (June)	Visiting Professor, Technical University of Crete, Chania, Greece
2024 (June)	Guest Professor, Univ. of Natural Resources and Applied Life Sciences, Vienna, Austria
2024 (April)	Visiting Honorary Professor, The Hong Kong Polytechnic University (PolyU), Hong Kong
2022 (October)	Visiting Professor, Technical University of Crete, Chania, Greece
2022 (July)	Visiting Professor, Technical University of Catalonia (UPC), Barcelona, Spain
2019 (June)	Visiting Professor, Technical University of Crete, Chania, Greece

2018 (November)	Visiting Honorary Professor, The Hong Kong Polytechnic University (PolyU), Hong Kong
2018 (October)	Honorary Professor, Shenyang Jianzhu University, Liaoning, China
2018 (July)	Visiting Honorary Professor, Royal Melbourne Institute of Technology, Melbourne, Australia
2018 (June)	Visiting Professor, Waseda University, Tokyo, Japan
2017 (November)	Visiting Honorary Professor, The Hong Kong Polytechnic University (PolyU), Hong Kong
2017 (May)	Visiting Guest Professor, Zhejiang University, Hangzhou, China
2017 (March)	Visiting Professor, Waseda University, Tokyo, Japan
2017 (February)	Visiting Honorary Professor, Royal Melbourne Institute of Technology, Melbourne, Australia
2016 (July-August)	Visiting Professor, Swiss Federal Institute of Technology (EPFL), Lausanne, Switzerland
2016 (July)	Visiting Professor, Swiss Federal Institute of Technology (ETH), Zurich, Switzerland
2016 (July)	Visiting Professor, Czech Technical University in Prague, Prague, Czech Republic
2016 (June)	Visiting Honorary Professor, Beijing Jiaotong University, Beijing, China
2016 (April-May)	Visiting Professor, Polytechnic University of Valencia, Valencia, Spain
2016 (April)	Visiting Honorary Professor, The Hong Kong Polytechnic University, Hong Kong
2016 (March)	Honorary Professor, Hunan University, Changsha, China
2015 (December)	Honorary Professor, Changsha University of Science and Technology, Changsha, China
2015 (October)	Honorary Professor, Beijing Jiaotong University, Beijing, China
	Honorary Professor, Chongqing Jiaotong University, Chongqing, China
2015 (August)	Honorary Professor, Royal Melbourne Institute of Technology, Melbourne, Australia
2014 (May)	Honorary Professor, Dalian University of Technology, Dalian, China
2013 (October)	Honorary Professor, Harbin Institute of Technology, Harbin, China
2013 (February)	Guest Professor, Wuhan University of Science and Technology, Wuhan, China
2012 (July)	Honorary Professor, The Hong Kong Polytechnic University (PolyU), Hong Kong
2012 (July)	Honorary Professor, Chang'an University, Xian, Shaanxi, China
2011 (July)	Invited Professor, French Institute of Science and Technology for Transport, Development and Networks (IFSTTAR), Paris, France
2011 (July)	Guest Professor, Université Paris-Est, Marne-la-Vallée, France
2011 (June)	Honorary Professor, Southeast University, Nanjing, China
2011 (June)	Honorary Professor, Tianjin University, Tianjin, China
2010 (March)	Guest Professor, Central South University of Forestry and Technology, Changsha, Hunan, China
2009 (September)	Honorary Professor, Tongji University, Shanghai, China
2008 (June)	Guest Professor, Univ. of Natural Resources and Applied Life Sciences, Vienna, Austria
2008 (March)	Distinguished Visiting Professor, RAE Fellowship, University of Surrey, Surrey, U.K.
2008 (January)	Visiting Chair Professor, Appointed by the President of the National Taiwan University of Science and Technology, Taipei, Taiwan
2005 (November)	Visiting Professor, Yamaguchi University, Ube, Japan
2005 (June-August)	Visiting Professor, Swiss Federal Institute of Technology, Lausanne, Switzerland
2005 (March-May)	Visiting Professor, Technical University of Braunschweig, Braunschweig, Germany
2003 (June)	Visiting Professor, JSPS Fellowship, Kyoto University, Kyoto, Japan
1998 (June -August)	Visiting Professor, Swiss Federal Institute of Technology, Lausanne, Switzerland
1998 (May)	Visiting Researcher, Kansai University, Osaka, Japan
1997 (June- July)	Visiting Professor, Swiss Federal Institute of Technology, Lausanne, Switzerland
1995 (May-June)	Visiting Professor, University of Trento, Trento, Italy
1994 (July-August)	Visiting Scholar, Kyoto University, Kyoto, Japan
1992 (June) and 1991 (June-July)	Visiting Senior Scientist, Fellow of Royal Norwegian Council for Scientific and Industrial Research, University of Trondheim (NTH), Trondheim, Norway
1991 (May)	Visiting Research Professor, University of Waterloo, Ontario Canada
1989 (October)	Visiting Professor, National Defense Academy, Yokosuka, Japan
1989 (June-July)	Visiting Professor, Swiss Federal Institute of Technology, Lausanne, Switzerland
1980 (October)	Visiting Research Associate Professor, University of Waterloo, Ontario, Canada
1977 (January) – 1979 (August)	Building Research Institute (INCERC), Bucharest, Romania
1976 (September)	Visiting Research Associate, National Laboratory of Civil Engineering, Lisbon, Portugal
1974 (January) – 1976 (December)	Research Structural Engineer, University of Liège, Belgium

## 16.2 Major research activities

Initiation and direction of research on topics chiefly related to 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 including buildings, bridges, ships, and dams; 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. This activity was wide-ranging, including both fundamental and applied research: theoretical studies, field investigations, testing, and contact with industry. Principal or Co-principal Investigator on major research projects totaling more than \$30M.

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; Naval Facilities Engineering Systems Command; 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; ArcelorMittal; Progeny System Corporation; Modjeski and Masters; Henry Luce Foundation; U.K. Highways Agency; North Atlantic Treaty Organization; and Japan Ministry of Education, among others. He also received research funding from 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.

### 16.3 Funded projects

- “*Life Extension of Deteriorating Steel Bridges by using Corrosion Resistant Steel*,” (Principal and Sole Investigator), Pennsylvania Infrastructure Technology Alliance, PITA (January 2022- August 2023).
- “*Resilience under Nonstationary Extreme Design Loads due to Climate Change*,” (Consultant), Naval Facilities Engineering Systems Command (NAVFAC) and ASCE (February - September 2023),
- “*University Transportation Center (UTC): Center for Integrated Asset Management for Multi-Modal Transportation Infrastructure Systems*,” (Co-Principal Investigator), US Department of Transportation (January 2019 – December 2023).
- “*Investigation of the Benefit of Using a Novel Corrosion Resistant Steel in New and Existing Steel Bridges in Pennsylvania*,” (Principal and Sole Investigator), U.S. DOT, Region 3 (Mid-Atlantic) University Transportation Center, Center for Integrated Asset Management for Multi-Modal Transportation Infrastructure Systems (CIAMTIS) (January 2021- March 2022).
- “*Life-Cycle Investigation on the Use of Novel Corrosion Steel in New and Existing Bridges*,” (Principal Investigator), Pennsylvania Infrastructure Technology Alliance, PITA (January 2021- August 2022).
- “*Risk and Sustainability-Informed Decision Making for Durability Enhancement and Service Life Extension of Steel Bridges using Maintenance-Free Steel*,” (Principal Investigator), Pennsylvania Infrastructure Technology Alliance, PITA (January 2020-August 2021).
- “*Efficient Service Life Extension of Bridges through Risk-Based Life-Cycle Management and High-Performance Construction Materials: Emphasis on Corrosion-Resistant Steel*,” (Principal Investigator), U.S. DOT, Region 3 (Mid-Atlantic) University Transportation Center, Center for Integrated Asset Management for Multi-Modal Transportation Infrastructure Systems (CIAMTIS) (February 2019- September 2020).
- “*Efficient Service Life Extension of Bridges through Risk-Based Life-Cycle Management and High-Performance Construction Materials: Emphasis on Corrosion-Resistant Steel*,” (Principal Investigator), Pennsylvania Infrastructure Technology Alliance, PITA (January 2019- August 2020).
- “*International Joint Research Project on Long-Term Performance Based Life-Cycle Design of Concrete Structures*,” (Principal Investigator with W. Jin), National Natural Science Foundation of China (January 2019-December 2023).
- “*Sustainable Marine Infrastructure Enabled by the Innovative Use of Seawater Sea-sand Concrete and Fiber-Reinforced Polymer Composites*,” (External Advisory Board Member; Project Coordinator J-G. Teng), Research Grants Council of Hong Kong (January 2019-December 2023).
- “*Risk and Utility-Informed Optimum Decision Making for Naval Ship Structures Integrating Inspections, SHM, Time-Variant System Performance, and Probabilistic Consequences: A Comprehensive Framework*,” (Principal and Sole Investigator), Office of Naval Research, Award N00014-16-1-2299 (March 2016- January 2021).
- “*Life-Cycle Management of Civil Infrastructure Considering Risk and Sustainability*,” (Principal and Sole Investigator), National Science Foundation, Award 1537926 (September 2015 -August 2020).
- “*Life-Cycle Optimal Risk-Based Management of Conventional Carbon Steel and Maintenance-Free Steel Bridges*” (Principal and Sole Investigator), Pennsylvania Infrastructure Technology Alliance, PITA (January 2018- December 2019).
- “*Effects of Climate Change on Life-Cycle Safety, Sustainability and Resilience of Steel Bridges*,” (Principal and Sole Investigator), Pennsylvania Infrastructure Technology Alliance, PITA (January 2017- December 2018).
- “*Life-Cycle Cost, Risk and Sustainability Analysis and Prediction of Performance of Steel Bridges with and without Corrosion Resistant Steel*,” (Principal and Sole Investigator), Pennsylvania Infrastructure Technology Alliance, PITA (July 2016- December 2017).
- “*Integrated Framework for the Application of Probabilistic Optimization Technology (POTECH) to Weapons with Emphasis on Modeling and Simulation: Phase 3*,” (Principal Investigator), U.S. Army Armament Research, Development and Engineering Center (through Pennsylvania Innovation and Advanced Technology Association (PIATA) by its Agent, Pennsylvania Innovation Enterprise (PIE) (September 2015 – August 2018).
- “*Sustainability-Based Life-Cycle Performance and Cost Analysis of Highway Bridges; Emphasis on Steel Bridges*,” (Principal and Sole Investigator), Pennsylvania Infrastructure Technology Alliance, PITA (January 2015 - November 2016).
- “*Baseline Documentation of the Use of Life Cycle Cost Analysis (LCCA) and Performance Based Design (PBD) in Civil Infrastructure Sectors*” (Principal Investigator), American Society of Civil Engineers, ASCE (April 2015 – February 2016).
- “*Reliability, Maturity and Readiness of Complex Systems*,” (Principal and Sole Investigator), Pennsylvania Infrastructure Technology Alliance, PITA (January 2014 - November 2015).
- “*Life-Cycle Assessment and Design of Structural Systems: State-of-the-Art*,” (Principal Investigator with F. Biondini), American Society of Civil Engineers/ Structural Engineering Institute, ASCE/SEI (October 2014 – December 2015).
- “*Development of Characterization of Failure Modes for Mechanical Components*,” (Principal and Sole Investigator - Subcontract from Progeny Systems Corporation), Office of Naval Research, Navy STTR FY2014A - Topic N14A-T01 (September 2014- March 2015).
- “*Life-Cycle Performance and Cost Analysis of Steel Bridges*,” (Principal and Sole Investigator), Pennsylvania Infrastructure Technology Alliance, PITA (January 2013 - October 2014).
- “*Bridge Deicing using Geothermal Foundations*,” (Co-Principal Investigator), Pennsylvania Infrastructure Technology Alliance, PITA (January 2013 - June 2014).
- “*Integrated Framework for the Application of Probabilistic Optimization Technology (POTECH) to Weapons with Emphasis on Modeling and Simulation: Phase 2*,” (Principal Investigator), U.S. Army Armament Research, Development and Engineering Center (through Pennsylvania Innovation and Advanced Technology Association (PIATA) by its Agent, Pennsylvania Innovation Enterprise (PIE) (September 2013 – September 2014).
- “*Integrated Framework for the Application of Probabilistic Optimization Technology (POTECH) to Weapons with Emphasis on Modeling*



- and Simulation: Phase 1,*” (Principal Investigator), U.S. Army Armament Research, Development and Engineering Center (through Pennsylvania Innovation and Advanced Technology Association (PIATA) by its Agent, Pennsylvania Innovation Enterprise (PIE) (September 2012 – September 2013).
- “*Advancing Steel and Concrete Bridge Technology to Improve Infrastructure Performance,*” (Co-Principal Investigator), U.S. Department of Transportation, FHWA (September 2011 – August 2019).
- “*Bridge System Reliability and Reliability-Based Redundancy Factors,*” (Principal Investigator), DTFH61-11-H-00027, \$316,771, Funded by Cooperative Agreement “Advancing Steel and Concrete Bridge Technology to Improve Infrastructure Performance” between FHWA and Lehigh University (September 2011- August 2019).
- “*Integrating SHM and Time Variant System Performance of Naval Ship Structures for Near Real-Time Decision Making Under Uncertainty: A Comprehensive Framework,*” (Principal and Sole Investigator), Office of Naval Research, Award N00014-12-1-0023 (December 2011- November 2015).
- “*Advanced Materials Partnership: Technology for Aerospace and Defense,*” (Principal and Sole Investigator), National Aeronautics and Space Administration (September 2010 – August 2012).
- “*Integrated Framework using Monitoring and Reliability for Improved Infrastructure Management under Uncertainty, Phase 3 – Performance Prediction and Optimum Monitoring Planning,*” (Principal and Sole Investigator), Pennsylvania Infrastructure Technology Alliance, PITA-XIII (August 2009 - October 2011).
- “*Development of a Corrosion Test Based on Electrochemical Surface Potential,*” (Co-Principal Investigator), Pennsylvania Infrastructure Technology Alliance, PITA-XII (August 2008 - September 2010).
- “*Integrated Life-Cycle Framework for Maintenance, Monitoring, and Reliability of Naval Ship Structures*” (Principal and Sole Investigator), Office of Naval Research, Award N 000140810188 (August 2008 – June 2012).
- “*Development and Demonstration of Systems-Based Monitoring Approaches for Improved Infrastructure Management under Uncertainty,*” (Principal Investigator with N. Catbas), U.S. Department of Transportation, FHWA Exploratory Advanced Research Program, Cooperative Agreement DTFH61-07-H-00040 (October 2007 – October 2012).
- “*Bridging Disciplines and Cultures: The Chinese Bridge Project at Lehigh University,*” (Co-Principal Investigator; C. Cook, PI), The Henry Luce Foundation (July 2009-June 2013).
- “*Life-Cycle Cost Analyses of Different Steels for Highway Bridge Construction,*” (Principal and Sole Investigator), ArcelorMittal/FHWA, June 2008- September 2009).
- “*Development of the Fifth International Conference on Bridge Maintenance, Safety, and Management,*” (Principal and Sole Investigator), Pennsylvania Infrastructure Technology Alliance, PIT 957-09, PITA-XII (August 2008 -June 2010).
- “*Integrated Framework using Monitoring and Reliability for Improved Infrastructure Management under Uncertainty, Phase 2 - Implementation Study,*” (Principal and Sole Investigator), PIT- 923-09, PITA-XII (August 2009 -June 2010).
- “*Integrated Framework using Monitoring and Reliability for Improved Infrastructure Management under Uncertainty, Phase 1 – Feasibility Study,*” (Principal and Sole Investigator), PIT 857-08, PITA-XI (December 2007- June 2009).
- “*Structural Performance Assessment Based on Monitoring, Phase 2- Implementation Study,*” (Principal and Sole Investigator), Pennsylvania Infrastructure Technology Alliance, PIT 856-08, PITA-XI (December 2007- June 2009).
- “*Structural Performance Assessment Based on Monitoring, Phase 1- Feasibility Study,*” (Principal and Sole Investigator), Pennsylvania Infrastructure Technology Alliance, PIT 775-07, PITA-X (January 2007- June 2008).
- “*Improved Corrosion Resistant Steel for Highway Bridge Construction,*” (Senior Personnel with J. Gross, R. Stout, R. Sause, and D. Cook), Federal Highway Administration, DTFH61-06-R-00024 (April 2007 – March 2009).
- “*Integrated Maintenance-Monitoring-Management Framework for Optimal Decision Making in Bridge Life-Cycle Performance,*” (Principal and Sole Investigator), sponsored by the National Science Foundation, CMS-0509772 (Original Grant Number), July 2005 - August 2006) and CMS-0639428 (August 2006 – July 2011).
- “*Life-Cycle Cost Model Simulator for Decision Making in Bridge Network Management,*” (Principal and Sole Investigator), sponsored by the National Science Foundation, CMS-0217290 (Original Grant Number) October 2002 – August 2006) and CMS-0638728 (September 2006 –July 2007).
- “*Life-Cycle Reliability Analysis and Optimization of Micro-Systems,*” (Co-Principal Investigator with K. Maute), sponsored by the National Science Foundation, DMI-0301707 (May 2003 – April 2007).
- “*Developing a National Database System for Maintenance Actions on Highway Bridges,*” (Co-Principal Investigator with G. Hearn), National Cooperative Highway Research Program, NCHRP 14-15 (August 2005 – January 2008).
- “*Developing Methods for Optimal Bridge and Asset Management Based on Condition, Safety and Cost: A System Lifetime Approach,*” (Principal and Sole Investigator), sponsored by the Dutch Ministry of Transport, Public Works and Water Management, Utrecht, The Netherlands (June 2004-June 2006).
- “*A Problem-Focused Research Agenda for the Highway Transportation Infrastructure: A Holistic Systems Identification and Integration by Using Field Tests,*” (Co-Principal Investigator with A. Aktan), sponsored by the National Science Foundation, CMS-0338817 (July 2003 – July 2004).
- “*A Feasibility Study of Estimation of Structural Systems Reliability under Hurricane Hazard,*” (Co-Principal Investigator with R. Balaji and R. Corotis), sponsored by the National Science Foundation, CMS-0335530 (August 2003 – July 2004).
- “*Optimum Life-Cycle Bridge Maintenance Planning Based on System Reliability,*” (Principal and Sole Investigator), sponsored by the National Science Foundation (July 2000 - October 2004).
- “*Castlewood Canyon Bridge: Phase 2 – Research,*” (Co-Principal Investigator with B. Shing and Y. Xi), Colorado Department of Transportation and Federal Highway Administration, *FHWA Innovative Bridge Research and Construction Program*, funded by the Federal Highway Administration, Contract with Colorado Department of Transportation (July 2003 – December 2004).
- “*Novel SiCN Ceramics for Health Monitoring of High Temperature Systems,*” (Co-Principal Investigator with R.Raj and K. Maute), sponsored by the Air Force Office of Scientific Research, AFOSR (September 2001 – August 2004).
- “*Optimal Management of Civil Infrastructure Systems,*” (Principal and Sole Investigator), Special SEI/ASCE Project sponsored by the Structural Engineering Institute (SEI) of the American Society of Civil Engineers (ASCE) (May 2002 – September 2003).
- “*United States – United Kingdom Exchange Experience in Civil Infrastructures,*” (Principal and Sole Investigator), sponsored by the National Science Foundation (April 2001 – March 2003).
- “*Acceptance Test Specifications and Guidelines for Fiber Reinforced Polymeric Bridge Decks,*” (Principal Investigator, Subcontract), sponsored by the Georgia Institute of Technology (A. Zureick, Project Director) funded by the Federal Highway Administration

- (March 2000 – September 2001).
- “Utilizing FRP for Pedestrian Bridges: FRP Bridge in O’Fallon Park,” (Co-Principal Investigator with B. Shing and Y. Xi), sponsored by the Colorado Department of Transportation and the Federal Highway Administration, *FHWA Innovative Bridge Research and Construction Program*, funded by the Federal Highway Administration, (January 2002 – August 2003).
- “Reliability of Civil Infrastructure Systems: State-of-the-Art,” (Principal and Sole Investigator), sponsored by Japan Institute of Systems Research and Tokyo Electric Power Company, Tokyo, Japan (September 2000 – March 2001).
- “Preventative Maintenance Strategies for Bridge Groups: Analysis,” (Project Director), sponsored by the U.K. Highways Agency, (March 2001- February 2003).
- “Life-Cycle Cost Analysis and Design of Infrastructure Systems,” (Principal and Sole Investigator), Special SEI/ASCE Project sponsored by the Structural Engineering Institute (SEI) of the American Society of Civil Engineers (ASCE) (October 2000 – February 2002).
- “Service-Life Prediction and Reliability Management of Deteriorating Concrete Bridges under Environmental Attack,” (Principal Investigator with J.R. Casas, University of Catalonia, Barcelona, Spain), sponsored by the U.S. - Spain Joint Committee for Scientific and Technological Cooperation (August 2000 – May 2002).
- “Evaluation of FRP Reinforced Bridge Decks,” (Co-Principal Investigator with B. Shing and Y. Xi), sponsored by the Colorado Department of Transportation and the Federal Highway Administration, *FHWA Innovative Bridge Research and Construction Program*, funded by the Federal Highway Administration, Contract with Colorado Department of Transportation (March 2000 - December 2001).
- “Accelerated Testing and Reliable Prediction of Durability of Concrete under Interactive Effect of Environmental and Mechanical Loadings,” (Co-Principal Investigator with Y. Xi and K. Willam), sponsored by the National Science Foundation (October 1998 - September 2002).
- “Optimum Maintenance Strategies for Different Bridge Types,” (Project Director), sponsored by the U.K. Highways Agency (July 1998-January 2000).
- “Structural Specifications Liaison Task Force,” (Project Participant, R. BJORHORDE Project Director), Special Opportunity Fund Project, Sponsored by the American Society of Civil Engineers (ASCE) (February 2000 – September 2000).
- “Case Studies in Optimal Design and Maintenance Planning of Civil Infrastructure Systems,” (Principal and Sole Investigator), Special SEI/ASCE Project sponsored by the Structural Engineering Institute (SEI) of the American Society of Civil Engineers (ASCE) (August 1998 - November 1999).
- “Life - Cycle Reliability - Based System Management of Structures and Networks,” (Principal Investigator and Project Coordinator with G. Augusti, University of Rome, Italy), Renewal of Collaborative Research Grant (U.S. - Italy), sponsored by the North Atlantic Treaty Organization (April 1998 - April 2001).
- “Optimal Performance of Infrastructures Based on Life – Cycle Cost,” (U.S. Team Leader and Principal Investigator with H. Furuta), Joint U.S.-Japan Project, sponsored by the Japan Ministry of Education, Tokyo, Japan (April 1998-March 2001).
- “Highway Bridge Assessment: The Balance of Risk and Cost,” (Consultant with J. B. Menzies), Highways Agency, London, U.K. (August 1997-May 1998).
- “System Reliability for Evaluation and Design of Highway Bridges,” (Principal Investigator), sponsored by the National Science Foundation (August 1996 - November 2001).
- “Unified Quantitative Methodology for Integration of Nondestructive Bridge Evaluation and Bridge Management: Development and Demonstration,” (Co-Principal Investigator with G. Hearn), sponsored by the Federal Highway Administration, (April 1996 - August 2000).
- “High Performance Concrete Demonstration Project: Prestressed Concrete Girder Testing,” (Principal Investigator with B. Shing), sponsored by the Colorado Department of Transportation and the Federal Highway Administration (April 1996 - June 1998).
- “Life - Cycle Reliability - Based System Management of Structures and Networks,” (Principal Investigator and Project Coordinator with G. Augusti, University of Rome, Italy), Collaborative Research Grant (U.S. - Italy), sponsored by the North Atlantic Treaty Organization, (April 1996 - April 1998).
- “Reliability Incorporation in Highway Bridge Engineering,” (Principal Investigator), sponsored by the National Science Foundation, (December 1995 - November 1998).
- “Research Experiences for Undergraduates (REU): Accelerated Testing and Reliable Prediction of Durability of Concrete under Interactive Effect of Environmental and Mechanical Loadings,” (Co-Principal Investigator with Y. Xi and K. Willam), sponsored by the National Science Foundation (May 1999 - September 2001).
- “Research Experiences for Undergraduates (REU): System Reliability for Evaluation and Design of Highway Bridges,” (Principal Investigator), sponsored by the National Science Foundation (April 1998 - November 2001).
- “Research Experiences for Undergraduates (REU): Life-Cycle Reliability-Based Evaluation and Design of Deteriorating Structures,” (Principal Investigator), sponsored by the National Science Foundation (April 1998-December 2000).
- “Life-Cycle Reliability-Based Evaluation and Design of Deteriorating Structures,” (Principal Investigator), sponsored by the National Science Foundation (September 1995-December 2000).
- “Hands-on Equipment for Teaching Structural Engineering,” (Principal Investigator with E. Spacone), sponsored by the Undergraduate Excellence Fund, University of Colorado (April 1997-August 1999).
- “Bridge Management for Whole-Life Performance Based on Reliability,” (Consultant), Highways Agency, London, U.K. (November 1996-November 1998).
- “Modeling of RC/SRC Systems with Flexibility-Based Models,” (Co-Principal Investigator with E. Spacone and B. Shing), sponsored by the National Science Foundation (August 1995-July 1998).
- “Workshop on Optimal Performance of Civil Infrastructure Systems,” (Principal Investigator), sponsored by the National Science Foundation (October 1995 - September 1997).
- “Design of Bridge Inspection Programs for Structural Reliability,” (Co-Principal Investigator with G. Hearn), sponsored by the National Science Foundation, (September 1994 - August 1997).
- “Conference on Reliability and Optimization of Structural Systems,” (Principal Investigator), sponsored by Department, College, and Graduate School, University of Colorado, Boulder, (November 1995 - October 1996).
- “Improved DOS Generation of NBI Conditions Ratings,” (Co-Principal Investigator with G. Hearn), sponsored by the Colorado Department of Transportation and the Federal Highway Administration, (January 1996 - July 1997).

“*Bridge Management Systems Training*,” (Co-Principal Investigator with G. Hearn), sponsored by the Federal Highway Administration - subcontract to Michael Baker Jr., Inc. (March 1995 - June 1999).

“*Calibration of the Canadian Highway Bridge Design Code*,” (Consultant), sponsored by the Ministry of Transportation of Ontario, (August 1994).

“*Multiobjective Reliability-Based Optimization of Structural Systems*,” (Principal Investigator), sponsored by the National Science Foundation, (December 1990 - June 1994).

“*Time-Dependent Reliability of Navigation Structures*,” (Principal Investigator), sponsored by the U.S. Army Corps of Engineers, Waterways Experiment Station, (July 1992 - May 1994).

“*Evaluation of Load Capacity of Bridges within Management Systems*,” (Co-Principal Investigator with G. Hearn), sponsored by the Colorado Department of Transportation and the Federal Highway Administration, (March 1994 - August 1995).

“*Bridge Management Systems, Phase 3: Development of a FHWA Workshop on NBI Rating from Pontis BMS*,” (Co-Principal Investigator with G. Hearn), sponsored by the Colorado Department of Transportation and the Federal Highway Administration, (June 1993 - December 1994).

“*Bridge Management Systems, Phase 2: Calibration*,” (Co-Principal Investigator with G. Hearn), sponsored by the Colorado Department of Transportation and the Federal Highway Administration, (January 1993 - December 1994).

“*Development of Adaptive Hybrid Control Techniques for Building Structures*,” (Co-Principal Investigator with B. Shing, R. Su and M. Mikulas), sponsored by the National Science Foundation, (June 1992 - May 1995).

“*Bridge Management Systems*,” (Co-Principal Investigator with G. Hearn), sponsored by the Colorado Department of Transportation and the Federal Highway Administration, (June 1992 - May 1993).

“*Design Reliability for Estimating Costs of Pile Foundations, Phase 2: From Theory to Application*,” (Principal Investigator), sponsored by the U.S. Army Corps of Engineers, Waterways Experiment Station, (August 1990 - October 1991).

“*Research Needs for Applications of System Reliability Concepts and Techniques in Structural Analysis, Design and Optimization*,” (Principal Investigator), sponsored by the National Science Foundation, (March 1988 - August 1989).

“*Safety Evaluation of Existing Steel Bridges*,” (Principal Investigator), sponsored by the National Science Foundation, (September 1986 - August 1989).

“*Multilevel Reliability-Based Optimization of Structural Systems*,” (Principal Investigator), sponsored by the National Science Foundation, (June 1987 - December 1990).

“*Seismic Hazard Prediction Using Fuzzy Sets*,” (Principal Investigator), sponsored by the National Science Foundation, (July 1986 - June 1988).

“*Development of a Comprehensive Bridge Specification and Commentary*,” (Consultant), National Cooperative Highway Research Program, NCHRP Project 12-33, 1988-92 (J.M. Kulicki, Principal Investigator), Calibration Task Group, (April 1989 - March 1992).

“*Load Prediction and Structural Response*,” (Co-Principal Investigator with G. Goble, J. Dow, and V. Saouma), sponsored by the Federal Highway Administration, (July 1988 - March 1991).

“*Design Reliability for Estimating Costs of Pile Foundations*,” (Co-Principal Investigator with G. Goble), sponsored by the US Army Corps of Engineers, Waterways Experiment Station, (August 1989 - August 1990).

“*Probabilistic Methodology for Safety Evaluation of Concrete Dams*,” (Principal Investigator), sponsored by the U.S. Department of the Interior, Bureau of Reclamation, (July 1987 - July 1987).

“*Simple Load Capacity Tests for Bridges to Determine Safe Load Posting Levels*,” (Co-Principal Investigator with G. Goble and V. Saouma), sponsored by the Pennsylvania Department of Transportation, (December 1987 - March 1990).

“*Application of Probabilistic Methods in Analysis and Design of Earth Slopes*,” Joint Research by University of Colorado, Boulder (Principal Investigator) and Swiss Federal Institute of Technology, Lausanne (P.L. Bourdeau, Principal Investigator), sponsored by the Swiss Federal Institute of Technology, (1987 - 1992).

“*Microcomputer Applications in Interactive Teaching of Elastic and Inelastic Structural Analysis, Design and Optimization in Engineering Curriculum*,” (Principal Investigator), sponsored by UCB-Academic Computing Services, (June 1987 - February 1988).

“*The Use of PC's in Conjunction with Computer-Based Structural Applications in Civil Engineering Curriculum*,” (Principal Investigator), sponsored by UCB-Academic Computing Services, (December 1986 - June 1987).

“*Development of Instructional PC Software for Teaching Concepts and Methods Used in Design and Optimization of Structures and Building Systems*,” (Principal Investigator), sponsored by UCB - Academic Computing Services, (September 1986 - June 1987).

“*Reliability of Pipeline Systems*,” (In charge of supervising the research of Mr. Kenji Ikejima, Professional Research Associate), sponsored by Osaka Gas Corporation, Osaka, Japan, (August 1986 - August 1987).

“*Optimum Structural Design Under Uncertainty*,” (Principal Investigator), sponsored by the Council on Research and Creative Work, University of Colorado, Boulder (October 1985 - October 1986).

“*Short Course on Structural Failure*,” sponsored by the Richardson Fund of the Department of Civil Engineering, University of Colorado, Boulder (June 1986; 48 participants (practicing engineers)).

“*Short Course on Load and Resistance Factor Design*,” sponsored by the Richardson Fund of the Department of Civil Engineering, University of Colorado, Boulder (June 1985).

“*Influence of Human Errors on Structural Safety*,” (Principal Investigator), sponsored by the National Science Foundation through the Institute of Behavioral Science, Natural Hazards Research Program, (October 1984 - September 1985).

“*Reliability Analysis of Redundant Structures*,” (Principal Investigator), sponsored by the Council on Research and Creative Work, University of Colorado, Boulder (February 1984 - January 1985).

“*Development of a Consistent Logic and Reliability for the Design of Structures through the Use of Probabilistic and Statistical Techniques*,” (Principal Investigator), sponsored by the Building Research Institute, Bucharest (1978-1979).

“*Seismic Behavior of Buildings and other Structures in the Areas Affected by the Earthquake of March 4, 1977*,” (Co-Principal Investigator), sponsored by the Building Research Institute, Bucharest (1977-1979).

“*Damage Analysis of Reinforced Concrete Structures*,” (Principal Investigator), sponsored by the Institute of Civil Engineering, Bucharest (1977-78).

“*Reliability of Nonlinear Structures*,” (Principal Investigator), Long term project sponsored by the Institute of Civil Engineering, Bucharest and the University of Liège, Belgium (1973-77).

#### **16.4 Other research and professional activities**

Over the past 40 years supervised 106 graduate students (50 PhD and 56 MS), sponsored 22 post-doctoral researchers, and hosted over 70 visiting scholars. 29 of his former doctoral students and post-doctoral researchers are university professors in the United States and abroad, and many are prominent in professional practice and research laboratories. Participated in more than 200 national and international meetings and presented papers. Invited participant or head of the US delegation in about 50 NSF, FHWA, NIST, ASCE, CERF, and NATO sponsored workshops concerned with identification of research needs for life-cycle design, assessment and management of structures and civil engineering systems, short- and medium-span bridges, structural health monitoring, modeling human error in structural design and construction, fuzzy sets applications in civil engineering, construction automation, evaluation and rehabilitation of bridges, structural system reliability, structural control, nondestructive evaluation of civil structures and materials, health monitoring of long span bridges, bridge management systems, naval ships, uncertainty quantification for complex interacting systems, resilience and sustainability of infrastructure, optimization of civil infrastructure systems, and environmental risk assessment.

#### **16.5 Publications**

Author or co-author of five books, 70 book chapters including 16 in ASCE books, over 490 articles in refereed journals including 136 in ASCE journals, over 700 papers in conference proceedings, and more than 100 reports and lecture notes. Editor or co-editor of 59 books published by ASCE, Balkema, CIMNE, CRC Press, Elsevier, McGraw-Hill, Routledge, Taylor & Francis and Thomas Telford, among others. Guest editor or co-editor of 30 special issues of refereed journals. A list of publications follows.

## PUBLICATIONS

(without journal articles published before 1985, papers in conference proceedings, reports, lecture notes and editorials)

## 1. Books, Book Chapters, and Contributions to Books

## 1.1. Books

1. **System Reliability, Risk, Longevity, Sustainability and Optimal Decision-Making: Emphasis on Marine Structures** (with S. Kim), CRC Press, A Science Publishers Book, Boca Raton, London, New York, 2025 (in press).
2. **Bridge Safety, Maintenance and Management in a Life-Cycle Context** (with S. Kim), CRC Press, A Science Publishers Book, Boca Raton, London, New York, ISBN-13: 978-1-032-05281-6, 2022, 296 pages.
3. **Life-Cycle of Structures under Uncertainty: Emphasis on Fatigue-Sensitive Civil and Marine Structures** (with S. Kim), CRC Press, A Science Publishers Book, Boca Raton, London, New York, ISBN-13: 978-0-367-14755-6, 2019, 216 pages.
4. **Primer on Bridge Load Testing** (with S. Alampalli, J. Grimson M. Halling, D. Kosnik, E.O.L. Lantsoght, Weidner, J.S., Yang, D. Y., and Y.E. Zhou), Transportation Research Circular E-C257, ISSN 0097-8515, Transportation Research Board, Washington, D.C., 2019, 126 pages.
5. **Structures and Infrastructure Systems: Life-Cycle Performance, Management, and Optimization**, Routledge, Taylor & Francis Group, ISBN-13: 978-0-8153-9605-5, New York, 2018, 449 pages.
6. **Mathematics for Mechanical Engineers** (with W.F. Ames, G. Cain, Y.L. Tong, W.G. Steele, H.W. Coleman, R.L. Kautz, and P. Norton), CRC Press, ISBN: 0-8493-0056-8, Boca Raton, London, New York, Washington, D.C., 2000, 262 pages.
7. **Reliability Analysis of Steel Structures** (with D. Georgescu), Institute of Civil Engineering Press, Bucharest, 1978, 299 pages.

## 1.2. Book Chapters

1. **“Life-cycle Risk-based Decision-Making in a Changing Climate,”** (with M. Liu, M. Akiyama, D.Y. Yang, K. G. Papakonstantinou, K. Hass, M. Stewart, F. Biondini, M. Ghosn, S. Bianchi, G. Fiorillo, A. S. Kiremidjian, J.Y. Lee, A. Shafieezadeh, and P.G. Morato), Chapter 4 in *Effect of Climate Change on Life-cycle Performance, Safety, Reliability and Risk of Structures and Infrastructure Systems* (Edited by F. Biondini, Z. Lounis, and M. Ghosn), ASCE, Reston, Virginia (in press, 2024).
2. **“Impact of Climate Change on Infrastructure Performance,”** (with B. R. Ellingwood, P. Bocchini, Z. Lounis, M. Ghosn, M. Liu, D. Yang, L. Capacci, S. Diniz, J. van de Lindt, M. Akiyama, Y. Li, M. Barbato, H. Hong, T. McAllister, G. Tsampras, and F. Vahedifard), Chapter 3 in *Effect of Climate Change on Life-cycle Performance, Safety, Reliability and Risk of Structures and Infrastructure Systems* (Edited by F. Biondini, Z. Lounis, and M. Ghosn), ASCE, Reston, Virginia (in press, 2024).
3. **“Conclusions,”** (with Z. Lounis, M. Ghosn, F. Biondini, B. R. Ellingwood, J.P. Giovannettone, P. Bocchini, and M. Liu), Chapter 5 in *Effect of Climate Change on Life-cycle Performance, Safety, Reliability and Risk of Structures and Infrastructure Systems* (Edited by F. Biondini, Z. Lounis, and M. Ghosn), ASCE, Reston, Virginia (in press, 2024).
4. **“Load Testing,”** (with S. Alampalli, J. Grimson, M. Halling, D. Kosnik, E.O.L. Lantsoght, D.Y. Yang, and Y.E. Zhou), Section 8 (revised version) of *The Manual for Bridge Evaluation*, AASHTO, Washington, D.C., pp. 8-1 to 8-16 (in press, 2024).
5. **“Probabilistic Prognosis and Life-Cycle Assessment based on SHM Information,”** (with S. Kim), Chapter 19 in *Sensor Technologies for Civil Infrastructures, Vol. 1: Sensing Hardware and Data Collection Methods for Performance Assessment*, 2nd Edition (Edited by J. P. Lynch, H. Sohn, and M.L. Wang), Woodhead Publishing Series in Civil and Structural Engineering, Elsevier, 2022, pp. 581-607.
6. **“Resilience of Civil Infrastructure in a Life-Cycle Context,”** (with Y. Dong), Chapter 2 in *Resilience of Critical Infrastructure Systems: Emerging Developments and Future Challenges* (Edited by Z. Wu, X-L. Liu, and M. Noori), CRC Press, Taylor & Francis Group, pp. 43-48.
7. **“Application of Cumulative Prospect Theory to Optimal Inspection Decision-Making for Ship Structures,”** (with C. Gong and M. Cheng), Chapter 7 in *Model Validation and Uncertainty Quantification* (Edited by R. Barthorpe), Springer, Springer International Publishing, Switzerland, Vol. 3, 2020, pp. 65-74.
8. **“Introduction,”** (with S. Alampalli, J. Grimson, M. Halling, D. Kosnik, E.O.L. Lantsoght, and Y.E. Zhou), Chapter 1 in *Primer on Bridge Load Testing*, Transportation Research Circular E-C257, Transportation Research Board, Washington, D.C., 2019, pp. 1-5.
9. **“General Considerations,”** (with D.Y. Yang, J. Grimson, M. Halling, D. Kosnik, E.O.L. Lantsoght, J.S. Weidner, and Y.E. Zhou), Chapter 1 in *Primer on Bridge Load Testing*, Transportation Research Circular E-C257, Transportation Research Board, Washington, D.C., 2019, pp. 6-17.
10. **“Estimating the Reliability Index and Remaining Service Life,”** (with D. Y. Yang, D. Kosnik, and E.O.L. Lantsoght), Chapter 6 in *Primer on Bridge Load Testing*, Transportation Research Circular E-C257, Transportation Research Board, Washington, D.C., 2019, pp. 54-63.
11. **“Structural Deterioration Mechanisms,”** (with M. Akiyama, M. Soliman, and F. Biondini), Chapter 1 in *Life-Cycle Design, Assessment and Maintenance of Structures and Infrastructures Systems* (Edited by F. Biondini and D.M. Frangopol), ASCE, Reston, Virginia, 2019, pp. 1-31.
12. **“Life-Cycle Performance of Deteriorating Structures,”** (with F. Biondini), Chapter 2 in *Life-Cycle Design, Assessment and Maintenance of Structures and Infrastructures Systems* (Edited by F. Biondini and D.M. Frangopol), ASCE, Reston, Virginia, 2019, pp. 33-64.
13. **“Life-cycle Performance of Infrastructure Networks,”** (with Y. Dong), Chapter 3 in *Life-Cycle Design, Assessment and Maintenance of Structures and Infrastructures Systems* (Edited by F. Biondini and D.M. Frangopol), ASCE, Reston, Virginia, 2019, pp. 65-94 (**Selected for the ASCE 2022 Bridge Asset Management Collection**).
14. **“Maintenance of Structures and Infrastructure Systems,”** (with M. Soliman), Chapter 4 in *Life-Cycle Design, Assessment and Maintenance of Structures and Infrastructures Systems* (Edited by F. Biondini and D.M. Frangopol), ASCE, Reston, Virginia, 2019, pp. 95-112.

15. **“Durability Design Criteria for Concrete Structures: An Overview of Existing Codes, Guidelines, and Specifications,”** (with S.M.C. Diniz, F. Biondini, H. Furuta, Padgett, J., Palermo, A., and X. Ruan), Appendix A in *Life-Cycle Design, Assessment, and Maintenance of Structures and Infrastructure Systems* (Edited by F. Biondini and D.M. Frangopol), ASCE, Reston, Virginia, 2019, pp. 113-155.
16. **“Survey on Life-cycle Performance of Civil Structures and Infrastructure Systems,”** (with F. Biondini), Appendix B in *Life-Cycle Design, Assessment, and Maintenance of Structures and Infrastructure Systems* (Edited by F. Biondini and D.M. Frangopol), ASCE, Reston, Virginia, 2019, pp. 157-164.
17. **“Reliability-based Analysis and Life-Cycle Management of Load Tests,”** (with D. Y. Yang, E. Lantsoght, and R. Steenbergen), Chapter 9 in *Load Testing of Bridges* (Edited by E. Lantsoght), *Structures and Infrastructures Book Series*, Vol. 13, Book Series Editor D. M. Frangopol, CRC Press/Balkema, Taylor & Francis Group, London, 2019, pp. 263-296.
18. **“Optimal Maintenance of Naval Vessels Considering Service Life Uncertainty,”** (with Y. Liu), Chapter 35 in *Model Validation and Uncertainty Quantification* (Edited by R. Barthorpe), Springer International Publishing, Switzerland, 2019, pp. 301-307.
19. **“Inspection and Monitoring,”** (with K. Bergmeister, S. Kim, M. Petschacker, U.Santa, D. Straub,A. Strauss, and R. Wendner), Chapter 6 in *fib CEB-FIP Bulletin 86: Safety and Performance Concepts - Reliability assessment of concrete structures, Guide to good practice*, DCC Siegmair Kastl, e.K., Germany, 2018, pp.104-149.
20. **“Life-Cycle Performance,”** (with N.M. Okasha), Chapter 7 in *fib CEB-FIP Bulletin 86: Safety and Performance Concepts - Reliability assessment of concrete structures, Guide to good practice*, DCC Siegmair Kastl, e.K., Germany, 2018. pp. 150-166.
21. **“Bridging the Gap between Sustainability and Resilience of Civil Infrastructure using Lifetime Resilience,”** (with D. Y. Yang), Chapter 23 in *Routledge Handbook of Sustainable and Resilient Infrastructure* (Edited by P. Gardoni), 2018, pp. 419-422.
22. **“Effects of Post-Failure Material Behavior on Redundancy Factors for Design of Structural Components in Nondeterministic Systems,”** (with B. Zhu), Chapter 4 in *Design, Assessment, Monitoring and Maintenance of Bridges and Infrastructure Networks* (Edited by F. Biondini and D.M. Frangopol), Routledge, pp. 54-73, *Structure and Infrastructure Engineering*, Taylor & Francis, Vol. 11, Issue 4, 2015, pp. 466-485.
23. **“Reliability-Based Durability Design and Service Life Assessment of Reinforced Concrete Deck Slab of Jetty Structures,”** (with M. Akiyama and K. Takenaka), Chapter 5 in *Bridge Design, Assessment and Monitoring* (Edited by A. Cheng, D.M. Frangopol, and X. Ruan), Routledge, 2018, pp. 52-61, also *Structure and Infrastructure Engineering*, Taylor & Francis, Vol. 13, No. 4, 2017, pp. 468-477.
24. **“Time-Variant Redundancy and Failure Times of Deteriorating Concrete Structures Considering Multiple Limit States,”** (with F. Biondini), Chapter 8 in *Life-Cycle of Structural Systems* (Edited by H. Furuta, M. Akiyama, and D.M. Frangopol), Routledge, 2018, pp. 94-106, also *Structure and Infrastructure Engineering*, Taylor & Francis, Vol. 13, No. 1, 2017, pp. 94-106.
25. **“Experimental Investigation of the Spatial Variability of the Steel Weight Loss and Corrosion Cracking of Reinforced Concrete Members: Novel X-Ray and Digital Image Processing Techniques,”** (with S. Lim, M. Akiyama, and H. Jiang), Chapter 11 in *Life-Cycle of Structural Systems* (Edited by H. Furuta, M. Akiyama, and D.M. Frangopol), Routledge, 2018, pp. 118-134, also *Structure and Infrastructure Engineering*, Taylor & Francis, Vol. 13, No. 1, 2017, pp. 118-134.
26. **“Efficient Multi-Objective Optimisation of Probabilistic Service Life Management,”** (with S. Kim), Chapter 12 in *Life-Cycle of Structural Systems* (Edited by H. Furuta, M. Akiyama, and D.M. Frangopol), Routledge, 2018, pp. 147-159, also *Structure and Infrastructure Engineering*, Taylor & Francis, Vol. 13, No. 1, 2017, pp. 147-159.
27. **“Probabilistic Assessment of an Interdependent Healthcare–Bridge Network System under Seismic Hazard,”** (with Y. Dong), Chapter 13 in *Life-Cycle of Structural Systems* (Edited by H. Furuta, M. Akiyama, and D.M. Frangopol), Routledge, 2018, pp. 160-170, also *Structure and Infrastructure Engineering*, Taylor & Francis, Vol. 13, No. 1, 2017, pp. 160-170.
28. **“Nonlinear Prediction Surfaces for Estimating the Structural Response of Naval Vessels,”** (with A. Mondoro and M. Soliman), Chapter 3 in *Model Validation and Uncertainty Quantification* (Edited by R. Barthorpe, R. Platz, I. Lopez, B. Moaveni, and C. Papadimitriou), Springer International Publishing, Switzerland, 2017, pp. 21-28.
29. **“Redundancy of Structures and Fatigue of Bridges and Ships under Uncertainty,”** (with B. Zhu and M. Soliman), Chapter 47 in *Handbook of Uncertainty Quantification* (Edited by R. Ghanem, D. Higdon, and H. Owhadi), Springer International Publishing, 2016, pp. 1-25.
30. **“Application of Soft Computing Techniques in Life-Cycle Optimization of Civil and Marine Structures,”** (with M. Soliman), Chapter 2 in *Computational Techniques for Civil and Structural Engineering* (Edited by J. Kruijz, Y. Tsompanakis and B.H.V. Topping), Saxe-Coburg Publications, Stirlingshire, Scotland, 2015, 43-58.
31. **“Damage to Ship Structures under Uncertainty – Evaluation and Prediction,”** (with M. Soliman), Chapter 18 in *Handbook of Damage Mechanics: Nano to Macro Scale of Materials and Structures*, (Edited by G.Z. Voyiadjis), Springer, Dordrecht-Heidelberg-London-New York, 2015, pp. 565-588.
32. **“Redundancy-Based Design of Nondeterministic Systems,”** (with B. Zhu), Chapter 23 in *Maintenance and Safety of Aging Infrastructure* (Edited by D.M. Frangopol and Y. Tsompanakis), Vol. 10 in the Book Series *Structures and Infrastructures*, CRC Press/Balkema, Taylor & Francis Group, London, 2014, pp. 707-738.
33. **“Reliability-Based Durability Design and Service Life Assessment of Concrete Structures in a Marine Environment,”** (with M. Akiyama), Chapter1 in *Maintenance and Safety of Aging Infrastructure* (Edited by D.M. Frangopol and Y. Tsompanakis), Vol. 10 in the Book Series *Structures and Infrastructures*, CRC Press/Balkema, Taylor & Francis Group, London, 2014, pp. 1-26.
34. **“Time-Variant Robustness of Aging Structures,”** (with F. Biondini), Chapter 6 in *Maintenance and Safety of Aging Infrastructure*, (Edited by D.M. Frangopol and Y. Tsompanakis), Vol. 10 in the Book Series *Structures and Infrastructures*, CRC Press/Balkema, Taylor & Francis Group, London, 2014, pp. 163-200.
35. **“Prognosis and Life-Cycle Assessment based on SHM Information,”** (with S. Kim), Chapter 5 – Part II. Data Interrogation and Decision Making in *Sensor Technologies for Civil Infrastructures: Performance Assessment and Health Monitoring*, (Edited by M.L. Wang, J. Lynch, and H. Sohn), Woodhead Publishing Limited, Cambridge, 2014, pp. 145-171.
36. **“Structural Performance Indicators for Bridges,”** (with D. Saydam), Chapter 9 in *Bridge Engineering Handbook - Second Edition*, Vol. 1 - *Fundamentals*, (Edited by W-F. Chen and L. Duan), CRC Press / Taylor & Francis Group, Boca Raton, London, New York, 2014, pp. 185-205.
37. **“Life-Cycle Analysis and Optimization,”** (with S. Kim), Chapter 14 in *Bridge Engineering Handbook - Second Edition*, Vol. 5 - *Construction and Maintenance*, (Edited by W-F. Chen and L. Duan), CRC Press / Taylor & Francis Group, Boca Raton, London, New York, 2014, pp. 537-566.

38. **“Bridge Health Monitoring,”** (with S. Kim), Chapter 10 in *Bridge Engineering Handbook - Second Edition, Vol. 5 - Construction and Maintenance*, (Edited by W-F. Chen and L. Duan), CRC Press / Taylor & Francis, Boca Raton, London, New York, 2014, 247-268.
39. **“Application of Genetic Algorithms to the Life-Cycle Management Optimization of Civil and Marine Infrastructure Systems,”** (with M. Soliman), Chapter 6 in *Civil and Structural Engineering Computational Methods* (Edited by Y. Tsompanakis, P. Iványi and B.H.V. Topping), Saxe-Coburg Publications, Stirlingshire, Scotland, 2013, pp. 117-128.
40. **“Utilization of St-Id for Assessment and Decision Making,”** (with F.L. Moon), Chapter 6 in *Structural Identification (St-Id) of Constructed Facilities*, (Edited by F.N. Catbas, T. Kijewski-Correa, and A.E. Aktan), ASCE, 2013, pp. 113-118.
41. **“Integrated Reliability-Based Life-Cycle Framework for Maintenance, Rehabilitation and Management of Aging Civil and Marine Infrastructures,”** (with M. Soliman), Chapter 1 in *Bridge Maintenance, Safety and Management: Techniques and Challenges*, (Edited by A. Chen and X. Ruan), China Communications Press, Beijing, China, 2013, pp. 1-21.
42. **“Risk Assessment for Bridge Decision-Making,”** (with T.B. Messervey), Chapter 5 in Monograph No. 5: *Quantitative Risk Assessment (QRA) for Natural Hazards* (Edited by N. Uddin and A. H.-S. Ang), ASCE Council on Disaster Risk Management, ASCE, 2011, pp. 52-64.
43. **“Modelling Life-Cycle Performance of Infrastructure under Uncertainty: Emphasis on Condition and Safety Profiles.”** (with L.C. Neves), Chapter 12 in *Soft Computing Methods for Civil and Structural Engineering* (Edited by Y. Tsompanakis, and B.H.V. Topping), Saxe-Coburg Publications, Stirlingshire, Scotland, 2011, pp. 297-312.
44. **“Effect of Monitoring on Reliability of Structures,”** (with T. B. Messervey), Chapter 18 in *Monitoring Technologies for Bridge Management* (Edited by B. Bakht, A.A. Mufti, and L.D. Wegner), Multi-Science Publishing Co., Ltd, U.K., 2011, pp. 515-560.
45. **“Bridge Maintenance, Repair and Rehabilitation in a Life-Cycle Context,”** (with N.M. Okasha), Chapter 4 –Part 3. Bridges in Vol. 2: *Sustainability of Constructions: Integrated Approach to Life-Time Structural Engineering* (Edited by L. Braganca, H. Koukkari, R. Landolfo, V. Ungureanu, E. Vesikari, and O. Hechler), Guttenberg Press Ltd., Malta, 2011, pp. 288-295.
46. **“Lifetime Seismic Reliability Analysis of Corroded Reinforced Concrete Bridge Piers,”**, Chapter 23 in *Computational Methods in Earthquake Engineering* (Edited by M. Papadrakakis, M. Fragiadakis, and N. D. Lagaros), Vol. 21 in Computational Methods in Applied Sciences, Series Editor E. Onate, Springer Science+Business Media B. V., Dordrecht-Heidelberg -London- New York, 2011, pp. 527- 537.
47. **“Service Life, Reliability and Maintenance of Civil Structures”** (with S. Kim), Chapter 5 in *Service Life Estimation and Extension of Civil Engineering Structures* (Edited by L.S. Lee and M. Karbari), Woodhead Publishing Limited, Cambridge, U.K., 2011, pp. 145-178.
48. **“Multi-criteria Optimization of Life-cycle Maintenance Programs using Advanced Modeling and Computational Tools,”** (with N.M. Okasha), Chapter 1 in *Trends in Civil and Structural Computing* (Edited by B.H.V. Topping, L.F. Costa Neves, and C. Barros), Saxe-Coburg Publications, Stirlingshire, Scotland, 2009, pp. 1-26.
49. **“Life-Cycle Cost and Performance Prediction: Role of Structural Health Monitoring,”** (with T. B. Messervey), Chapter 16 in *Frontier Technologies in Infrastructures Engineering* (Edited by S-S. Chen and A.H-S. Ang), *Structures and Infrastructures Book Series*, Vol. 4, Book Series Editor D. M. Frangopol, CRC Press/Balkema, Boca Raton, London, New York, Leiden, 2009, pp. 361-381.
50. **“Maintenance Principles for Civil Structures,”** (with T. B. Messervey), Chapter 89 in *Encyclopedia of Structural Health Monitoring* (Edited by C. Boller, F-K. Chang, and Y. Fujino), John Wiley & Sons Ltd, Chichester, UK, Vol. 4, 2009, pp. 1533-1562.
51. **“Optimization of Life-Cycle Maintenance Strategies under Uncertainties: Role of Inspections,”** (with L.C. Neves), Chapter 3 in *Trends in Computational Structures Technology* (Edited by B.H.V. Topping and M. Papadrakakis), Saxe-Coburg Publications, Stirling, Scotland, 2008, pp. 55-74.
52. **“Design Optimization of Stochastic Dynamic Systems by Algebraic Reduced Order Models,”** (with G. Weichum, M. Allen, and K. Maute), Chapter 6 in *Structural Design Optimization Considering Uncertainties* (Edited by Y. Tsompanakis, N.D. Lagaros, and M. Papadrakakis), *Structures and Infrastructures Book Series*, Vol. 1, Book Series Editor D. M. Frangopol, Taylor & Francis, London, 2008, pp. 135-154.
53. **“Design Optimization with Uncertainty, Life-Cycle Performance and Cost Considerations,”** (with K. Maute and M. Liu), Chapter 11 in *Optimization of Structural and Mechanical Systems* (Edited by J. S. Arora), World Scientific Publishing Co. Pte. Ltd., 2007, pp. 291-329.
54. **“Life-Cycle Maintenance of Structures by Condition, Reliability and Cost Oriented Probabilistic Optimization,”** (with L.C. Neves), Chapter 5 in *Innovation in Computational Structures Technology* (Edited by B.H.V. Topping, G. Montero and R. Montenegro), Saxe-Coburg Publications, Stirling, Scotland, 2006, pp. 95-110.
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### 3. Edited Books in New Book Series Structures and Infrastructures as Book Series Editor

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2. **Load Testing of Bridges: Current Practice and the Diagnostic of Load Testing** (Book Series Editor D.M. Frangopol, Edited by E.O.L. Lantsoght). Structures & Infrastructures Book Series (ISSN 1747-7735), **Vol. 12**, ISBN: 9780367210823, CRC Press / Balkema - Taylor & Francis Group, London, 2019, 302 pages.
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4. **Maintenance and Safety of Aging Infrastructure** (Book Series Editor D.M. Frangopol, Edited by D.M. Frangopol and Y. Tsompanakis), Structures & Infrastructures Book Series (ISSN 1747-7735), **Vol. 10**, ISBN: 978-0-415-65942-0 (Hbk), CRC Press / Balkema - Taylor & Francis Group, London, 2014, 746 pages.
5. **Seismic Performance of Concrete Buildings** (Book Series Editor D.M. Frangopol, Authors L. Crainic and M. Munteanu), Structures & Infrastructures Book Series (ISSN 1747-7735), **Vol. 9** (ISBN 978-0-415-63186-0(Hbk) and ISBN 978-0-203-09639-0(ebook)), CRC Press / Balkema - Taylor & Francis Group, Leiden, The Netherlands, 2013, 263 pages.
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8. **Structural Identification and Damage Detection using Genetic Algorithms** (Book Series Editor D.M. Frangopol, Authors C.G. Koh and J. Perry), Structures and Infrastructures Book Series (ISSN 1747-7735), **Vol. 6** (ISBN13 978-0-415-46102-3(Hbk) and ISBN13 978-0-203-85943-8(eBook)), CRC Press/Balkema – Taylor & Francis Group, Boca Raton, London, New York, Leiden, 2010, 140 pages.
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10. **Frontier Technologies in Infrastructure Engineering** (Book Series Editor D.M. Frangopol, Edited by S-S. Chen, A. H-S. Ang), Structures and Infrastructures Book Series (ISSN 1747-7735), **Vol. 4** (ISBN13 978-0-415-49875-3(Hbk) and ISBN13 978-0-203-87559-9(eBook)), CRC Press/Balkema - Taylor & Francis Group, Boca Raton, London, New York, Leiden, 2009, 502 pages.
11. **Computational Analysis of Randomness in Structural Mechanics** (Book Series Editor D.M. Frangopol, Author C. Bucher), Structures and Infrastructures Book Series (ISSN 1747-7735), **Vol. 3** (ISBN13 978-0-415-40354-2(Hbk) and ISBN13 978-0-203-87653-4(eBook)), CRC Press/Balkema - Taylor & Francis Group, Boca Raton, London, New York, Leiden, 2009, 248 pages.
12. **Computational Structural Dynamics and Earthquake Engineering** (Book Series Editor D.M. Frangopol, Edited by M. Papadrakakis, D.C. Charnpiss, N. Lagaros, and Y. Tsompanakis), Structures and Infrastructures Book Series (ISSN 1747-7735), **Vol. 2** (ISBN 978-0-415-45261-8(Hbk) and ISBN13 978-0-203-88163-7(e-book)), CRC Press/Balkema, Boca Raton, London, New York, Leiden, 2009, 660 pages.
13. **Structural Design Optimization Considering Uncertainties** (Book Series Editor D.M. Frangopol, Edited by Y. Tsompanakis, N. Lagaros, and M. Papadrakakis), Structures and Infrastructures Book Series (ISSN 1747-7735), **Vol. 1** (ISBN 987-0-415-45260-1(Hbk) and ISBN 978-0-203-93852-2 (e-book)), Taylor & Francis Group/Balkema, London, Leiden, New York, Philadelphia, Singapore, 2008, 656 pages.

#### 4. Edited Special Issues of Refereed Journals as Guest Editor

1. “**Advances in Life-Cycle of Structures and Infrastructure Systems**,” (Edited by F. Biondini, D.M. Frangopol, and Y. Tsompanakis, Guest Editors), Special Issue of *Structure and Infrastructure Engineering*, Taylor and Francis, 2024 (in progress).
2. “**Bridge Safety Assessment, Maintenance, Monitoring and Life-cycle Performance**” (Edited by J.R. Casas, D.M. Frangopol, J. HazardsTurmo, and Y. Tsompanakis, Guest Editors), Special Issue of *Structure and Infrastructure Engineering*, Taylor and Francis, Vol. 20, No. 7-8, 2024, pp. 957-1273.
3. “**Bridge Maintenance, Monitoring, Management, Risk, Life-cycle Performance and Optimization**,” (Edited by H. Yokota, D.M. Frangopol, M. Akiyama, and Y. Tsompanakis, Guest Editors), Special Issue of *Structure and Infrastructure Engineering*, Taylor and Francis, Vol. 18, No. 10-11, 2022, pp. 1377-1600.
4. “**Editorial: The Crux of Bridge and Transport Network Resilience – Advancements and Future-proof Solutions**,” (Edited by S. A. Mitoulis, M. Domaneschi, J. R. Casas, G. P. Cimellaro, N. Catbas, B. Stojadinovic, and D.M. Frangopol), *Proceedings of the Institution of Civil Engineers – Bridge Engineering*, ICE Publishing, Thomas Telford Ltd., Vol. 175, No. 3, 2022, pp. 133-137
5. “**Life-Cycle, Reliability and Sustainability of Civil Infrastructure**” (Edited by A. Chen, X. Ruan, D.M. Frangopol, and Y. Tsompanakis, Guest Editors), Special Issue of *Structure and Infrastructure Engineering*, Taylor and Francis, Vol. 18, No. 7, 2022, pp. 893-894.
6. “**Bridge Asset Management Collection**,” (Curated by D. M. Frangopol and S. Narasimhan), Selected journal papers and book chapters on bridge asset management published by ASCE (infographic to share ASCE publications with broader audience), *ASCE Library*, January 2022
7. “**Risk-, Resilience-, and Sustainability-Informed Assessment and Management of civil Infrastructure in a Life-Cycle Context**,” (Edited by Y. Dong, M. Akiyama, D.M. Frangopol, and Y. Tsompanakis, Guest Editors), Special Issue of *Structure and Infrastructure Engineering*, Taylor and Francis, Vol. 17, No. 4, 2021, pp. 481-589.
8. “**Life-Cycle, Risk, Resilience and Sustainability of Civil Infrastructure**,” (Edited by R. Caspeele, D.M. Frangopol, and Y. Tsompanakis, Guest Editors), Special Issue of *Structure and Infrastructure Engineering*, Taylor and Francis, 2020, Vol. 16, No. 4, 2020, pp. 517-802.

9. **“Maintenance, Safety, Risk, Management and life-Cycle Performance of Bridges,”** (Edited by N. Powers, D.M. Frangopol, R. Al-Mahaidi, C. Caprani, and Y. Tsompanakis, Guest Editors), Special Issue of *Structure and Infrastructure Engineering*, Taylor and Francis, Vol. 16, No. 1, 2020, pp. 1-231.
10. **“Life-Cycle of Engineering Systems: Emphasis on Sustainable Infrastructure,”** (Edited by J. Bakker, D.M. Frangopol, and Y. Tsompanakis, Guest Editors), Special Issue of *Structure and Infrastructure Engineering*, Taylor and Francis, 2018, Vol. 14, No. 7, 2018, pp. 831-1035.
11. **“Bridge Analysis, Design, Assessment, Monitoring and Management,”** (Edited by T.N. Bittencourt, D.M. Frangopol, A. T. Beck, and Y. Tsompanakis, Guest Editors), Special Issue of *Structure and Infrastructure Engineering*, Taylor and Francis, Vol. 14, No. 4, 2018, pp. 411-508.
12. **“Bridge Design, Maintenance and Monitoring,”** (Edited by A. Chen, D.M. Frangopol, and X. Ruan, Guest Editors), Special Issue of *Structure and Infrastructure Engineering*, Taylor and Francis, Vol. 13, No. 4, 2017, pp. 417-536.
13. **“Selected Contributions of the 12th International Probabilistic Workshop (IPW), Weimar, 2014,”** (Edited by T. Lahmer, C. Bucher and D. M. Frangopol, Special Section Guest Editors), *Probabilistic Engineering Mechanics*, Elsevier, Vol. 45, 2016, pp. 188-228.
14. **“State of the Art Collection: Risk-Based Lifecycle Performance of Structural Systems,”** (Edited by B.R. Ellingwood and D.M. Frangopol, Special Section Editors), A Collection of five state of the art papers, *Journal of Structural Engineering*, Vol. 142, No. 9, 2016, F2016001, F4016001, F4016002, F4016003, F4016004, F4016005
15. **“Design, Assessment, Monitoring and Maintenance of Bridges and Infrastructure Networks,”** (Edited by F. Biondini and D. M. Frangopol, Guest Editors), Special issue of *Structure and Infrastructure Engineering*, Taylor and Francis, Vol. 11, No. 4, 2015, pp. 412-603.
16. **“Advances in Life-Cycle Civil Engineering,”** (Edited by F. Biondini and D. M. Frangopol, Guest Editors), Special issue of *Structure and Infrastructure Engineering*, Taylor and Francis, Vol. 10, No. 7, 2014, pp. 843-927.
17. **“Bridge Design, Maintenance and Management,”** (Edited by D. M. Frangopol and F. Biondini, Guest Editors), Special issue of *Structure and Infrastructure Engineering*, Taylor and Francis, Vol. 10, No. 4, 2014, pp. 419-550.
18. **“Life-Cycle of Civil Engineering Systems,”** (Edited by F. Biondini and D. M. Frangopol, Guest Editors), Special issue of *Structure and Infrastructure Engineering*, Taylor and Francis, Vol. 7, Nos. 1-2, 2010, pp. 1-196.
19. **“Optimization under Uncertainty with Emphasis on Structural Applications,”** (Edited by D.M. Frangopol and Y. Tsompanakis, Guest Editors), Special Issue of *Structural Safety*, Elsevier, Vol. 31, No.6, 2009, pp. 449-522.
20. **“Advances in Reliability and Optimization of Structural Systems,”** (Edited by J. D. Sørensen and D. M. Frangopol, Guest Editors), Special Issue of *Structure and Infrastructure Engineering*, Taylor and Francis, Vol. 4, No. 5, 2008, pp. 325-412.
21. **“Probabilistic Modelling of Structural Degradation,”** (Edited by R. E. Melchers and D. M. Frangopol, Guest Editors), Special Issue of *Reliability Engineering & System Safety*, Elsevier, Vol. 93, No. 3, 2008, pp. 363-500.
22. **“Advances in Probabilistic Mechanics and Structural Reliability,”** (Edited by D.M. Frangopol and K. Maute, Guest Editors), Special Issue of *Computers & Structures*, Pergamon, Vol. 82, Nos. 13-14, 2004, pp. 969-1121.
23. **“Progress in Probabilistic Mechanics and Structural Reliability,”** (Edited by D.M. Frangopol, Guest Editor), Special Issue of *Computers & Structures*, Pergamon, Vol. 80, No. 12, 2002, pp. 1025-1144.
24. **“Reliability Oriented Optimal Structural Design,”** (Edited by D.M. Frangopol and C. Guedes Soares, Guest Editors), Special Issue of *Reliability Engineering & System Safety*, Elsevier, Vol. 73, No. 3, 2001, pp. 195-306.
25. **“Probabilistic Mechanics and Structural Reliability,”** (Edited by M. Noori, Y-K. Wen, D. M. Frangopol and M. Grigoriu, Guest Editors), Double Special Issue of *Probabilistic Engineering Mechanics*, Elsevier, Vol. 14, Nos. 1-2, 1999, pp. 1-211.
26. **“Bridge Reliability,”** (Edited by D. M. Frangopol and G. Hearn, Guest Editors), Special Issue of *Engineering Structures*, Elsevier, Vol. 20, No. 11, 1998, pp. 931-1026.
27. **“Reliability-Based Evaluation and Design of Masonry, Steel and Reinforced Concrete Structures,”** (Edited by D. M. Frangopol and R. Melchers, Guest Editors), Double Special Issue of *Structural Safety*, Elsevier, Amsterdam, Vol. 18, No. 2/3, 1996, pp. 65-258.
28. **“Progress in Bridge Engineering,”** (Edited by D. M. Frangopol and G. Hearn, Guest Editors), Special Issue of *Structural Engineering Review*, Pergamon, Elsevier, Oxford, Vol. 7, No. 3, 1995, pp. 149-266.
29. **“Computer-Aided Structural System Analysis, Design, and Optimization,”** (Edited by D. M. Frangopol, Guest Editor, and G. Hearn, Guest Associate Editor), Special Issue of *Microcomputers in Civil Engineering*, Blackwell, Cambridge, MA & Oxford, UK, Vol. 10, No. 1, 1995, pp. 1-76.
30. **“Reliability-Based Structural System Assessment, Design, and Optimization,”** (Edited by D. M. Frangopol and R. B. Corotis, Guest Editors), Double Special Issue of *Structural Safety*, Elsevier, Amsterdam, Vol. 16, Nos. 1+2, 1994, pp. 1-172.
31. **“System Reliability in Structural Analysis, Design, and Optimization,”** (Edited by D. M. Frangopol, Guest Editor, and R. B. Corotis, Guest Associate Editor), Triple Special Issue of *Structural Safety*, Elsevier, Amsterdam, Vol. 7, Nos. 2-4, 1990, pp. 83-309.

##### 5. Refereed Journal Articles (since 1985)

###### *In Press*

1. **“Probabilistic Time-variant Functionality-based Analysis of Transportation Networks Incorporating Asphalt Pavements and Bridges under Multiple Hazards,”** (with J. Xin and M. Akiyama), *Journal of Bridge Engineering*, ASCE (in press, 2024).
2. **“On Information Value and Decision Analyses,”** (with S. Thöns, C. Caprani, M.H. Faber, P. Gardoni, P. F. Giordano, D. Honfi, L. Iannacone, M.S. Khan, J. Köhler, S. Kim, N. de Koker, M. P. Limongelli, S.M. Miraglia, J. S. Nielsen, M. Pandey, and C. Viljoen), *Structural Safety*, Elsevier, 102481 (published online pre-proof May 10, 2024).
3. **“Moving Toward Resilience and Sustainability in the Built Environment,”** (with M. Sánchez-Silva, P. Gardoni, D.V. Val, D.Y. Yang, M.P. Limongelli, Honfi, D., Acuña, N., and D. Straub), *Structural Safety*, Elsevier, 102449 (published online pre-proof February 15, 2024).
4. **“Life Safety in the Reliability-based Design and Assessment of Structures,”** (with M. Pandey, C. Viljoen, A. Way, K. Fisher, M. Sykora, D. Diamantidis, R.D.J.M. Steenbergen, N. Lind, D.Y. Yang, J.V. Retief, J. André, J. Nathwani, and R. Lenner), *Structural Safety*, Elsevier, 102453 (published online pre-proof February 23, 2024).

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5. “**Bayesian Inference of the Spatial Distribution of Steel Corrosion in Reinforced Concrete Structures using Corrosion-induced Crack Width**,” (with S. Jia, M. Akiyama, and Z. Xu), *Structural Safety*, Elsevier, Vol. 111, 2024, 102518, pp. 1-19.
  6. “**Digital Twins-boosted Intelligent Maintenance of Ageing Bridge Hangers Exposed to Corrosion-fatigue Coupled Deterioration**,” (with J. Heng, Y. Dong, L. Lai, and Z. Zhou), *Automation in Construction*, Elsevier, Vol. 167, 2024, 105697, pp. 1-16.
  7. “**Probability-informed Neural Network-driven Point-evolution Kernel Density Estimation for Time-dependent Reliability Analysis**,” (with H. Guo, J. Zhang, and Y. Dong), *Reliability Engineering and System Safety*, Elsevier, Vol. 338, 107543, pp. 1-20 (part of the special issue in honor of Professor Armen Der Kiureghian).
  8. “**LRFD Methodology for River Embankments Against Non-stationary Flooding under Climate Change**,” (with A.K. Alhamid, M. Akiyama, Z. He, and P.S. Firdaus), *Structural Safety*, Elsevier, Vol. 109, 2024, 102477, pp. 1-17.
  9. “**Prediction of Burst Pressure of Corroded Thin-Walled Pipeline Elbows**,” (with C. Gong, S. Guo, and R. Zhang), *Thin-walled Structures*, Elsevier, Vol. 199, 2024, 111861, pp. 1-8.
  10. “**Analysis of the Life-cycle, Maintenance, and Optimization of Bridges under Uncertainty**,” (in Spanish), Academy of Engineering of Mexico, *Gaceta de Ingenieria*, Vol. VI, 2024, pp. 13-15.
  11. “**Knowledge Transfer for Adaptive Maintenance Policy Optimization in Engineering Fleets based on Meta-reinforcement Learning**,” (with J. Cheng, M. Cheng, Y. Liu, J. Wu, and W. Li), *Reliability Engineering and System Safety*, Elsevier, Vol. 247, 2024, 110127, pp. 1-16.
  12. “**Effects of Spatial Corrosion Distribution and Prestressing Levels on the Structural Performance of Deteriorated PC Beams**,” (with T. Wu, M. Akiyama, S. Lim, L. Wu, Z. Xu, S. Srivaranun, and W. Chen), *Construction and Buildings Materials*, Elsevier, Vol. 421, 2024, 135650, 2024, pp. 1-14.
  13. “**Seismic Response of a Groud-bridge Structure System in Horizontal and Inclined Liquefiable Site to Near-fault Pulse-like Ground Motions**,” (with H-P. Wan, Z-X. Peng, L. Su, and W-X. Ren), *Structures*, Elsevier, Vol. 62, 2024, 106302, pp. 1-15.
  14. “**Optimum Seismic Retrofit of Deteriorating RC Bridge Columns based on Risk, Cost-Benefit and Real Option Analyses**,” (with S. Kim and Y. Yang), *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, ASCE-ASME, Vol. 10, No. 3, 2024, 04024043, pp. 1-19.
  15. “**Investigation of Corrosion-induced Cracks using Corrosion Products Quantified by an X-ray Technique and FE Analysis of Single- and Multiple-rebar Beams**,” (with Z. Xu, M. Akiyama, S. Lim, S. Srivaranun, D. Miyazato, and A. Li), *Cement and Concrete Composites*, Elsevier, Vol. 151, 2024, 105565, pp. 1-19.
  16. “**Probabilistic Connectivity Assessment of Road Networks Subjected to Ground Motion and Tsunamis Considering the Spatial Correlation among Hazard Intensities**,” (with K. Aoki, M. Akiyama, A.K. Alhamid, and S. Koshimura), *Journal of Bridge Engineering*, ASCE, Vol. 29, No. 8, 2024, 04024057, pp. 1-21.
  17. “**Probabilistic Life-cycle Landslide Assessment Subjected to Nonstationary Rainfall Based on an Alternating Stochastic Renewal Process**,” (with Z. He, M. Akiyama, A.K. Alhamid, and Y. Huang), *Engineering Geology*, Elsevier, Vol. 249, 2024, 107543, pp. 1-17.
  18. “**An Analytical Model for Asymmetric Wire Breaking in Unbonded Prestressed Single- and Multi-strands**,” (with T. Wu, W. Chen, M. Akiyama, and B. Zhang), *Structure and Infrastructure Engineering*, Taylor & Francis, Vol. 20, No. 9, 2024, pp. 1418-1436.
  19. “**Autonomous Detection of Steel Corrosion Spatial Variability in Reinforced Concrete Members using X-ray Technology and Deep Learning-based Semantic Segmentation**,” (with J. Xin and M. Akiyama), *Automation in Construction*, Elsevier, Vol. 158, 2024, 105252, pp. 1-16.
  20. “**Look Ahead Active-learning Reliability Analysis Based on Stepwise Margin Reduction**,” (with T. Zhou, T. Guo, F. Yang, and Y. Dong), *Reliability Engineering and System Safety*, Elsevier, Vol. 243, 2024, 109830, pp. 1-21.
  21. “**Tsunami Insurance Portfolio Optimization for Coastal Residential Buildings under Non-stationary Sea Level Rise Effects Based on Sample Average Approximation**,” (with A.K. Alhamid, M. Akiyama, S. Koshimura, and H. So), *Stochastic Environmental Research and Risk Assessment*, Springer, Vol. 38, 2024, pp. 817-841.
  22. “**Impact of Climate Change on Risk Assessment and Effective Maintenance Strategies for Bridge Networks Subjected to Corrosion**,” (with X. Han), *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, ASCE-ASME, Vol. 10, No. 1, 2024, 04023054, pp. 1-15.
  23. “**Probabilistic Connectivity Assessment of Bridge Networks Considering Spatial Correlations Associated with Flood and Seismic Hazards**,” (with P.S. Firdaus, H. Matzuzaki, M. Akiyama, and K. Aoki), *Structure and Infrastructure Engineering*, Taylor & Francis, Vol. 20, No. 7-8, 2024, pp. 1015-1032.
  24. “**Probabilistic Structural Identification and Condition Assessment of Prestressed Concrete Bridges Based on Bayesian Inference using Deflection Measurement**,” (with S. Jia, M. Akiyama, and B. Han), *Structure and Infrastructure Engineering*, Taylor & Francis, Vol. 20, No. 1, 2024, pp. 131-147.
  25. “**IABSE Survey of Implemented Decision-making Models used by Public and Private Owners/Operators of Road- and Railway Infrastructures**,” (with A. Strauss, A. Orcesi, A. Lampropoulos, B. Briseghella, H.S. Sousa, J. Casas, J.C. Matos, K. Schellenberg, M. Valenzuela, M. Akiyama, P. Linneberg, R. Hajdin, and T. Moser), *Structural Engineering International*, Journal of IABSE, Taylor & Francis, Vol. 34, No. 1, 2024, pp. 87-96.
  26. “**An Error-based Stopping Criterion for Spherical Decomposition-based Adaptive Kriging Model and Rare Event Estimation**,” (with Y. Zhang and Y. Dong), *Reliability Engineering and System Safety*, Elsevier, Vol. 241, 2024, pp. 1-11.
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27. “**A Member Redundancy Index Based on Distributed Static Indeterminacy for Optimum Material Distribution for Structures with Axially Loaded Members**,” (with N.M. Okasha, M. Soliman, S. Kim, and A.K. Alzo’ubi), *Engineering Structures*, Elsevier, Vol. 293, 2023, 116654, pp. 1-12.
  28. “**Sustainability-informed Management Optimization of Asphalt Pavement Considering Risk Evaluated by Multiple Performance Indicators using Deep Neural Networks**,” (with J. Xin and M. Akiyama), *Reliability Engineering and System Safety*, Elsevier, Vol. 238, Oct. 2023, 109448, pp. 1-16.
  29. “**In Memoriam – Christian G. Bucher**,” *Structural Safety*, Elsevier, Vol. 104, 2023, 102367.

30. “Probabilistic Life-cycle Connectivity Assessment of Transportation Networks using Deep Learning,” (with J. Xin, M. Akiyama, and X. Han), *Journal of Bridge Engineering*, ASCE, Vol. 28, No. 9, 2023, 04023066, pp. 1-19.
  31. “Sustainable Life-cycle Maintenance Policy-making for Network-level Deteriorating Bridges with Convolutional Autoencoder-structured Reinforcement Learning Agent,” (with X. Lei and Y. Dong), *Journal of Bridge Engineering*, ASCE, Vol. 28, No. 9, 2023, 04023063, pp. 1-15.
  32. “Investigation on a Novel Reliability Analysis Approach Integrating Adaptive Space Division and Direction Sampling,” (with X. Han), *Advances in Structural Engineering*, SAGE, Vol. 26, No. 10, 2023, pp. 1929-1950.
  33. “Life-cycle Risk Assessment of Building Portfolios Subjected to Tsunamis under Non-stationary Sea-level Rise Based on a Compound Renewal Process,” (with A.K. Alhamid, M. Akiyama, K. Aoki, and S. Koshimura), *Earthquake Engineering and Structural Dynamics*, Wiley, Vol. 52, No. 7, 2023, pp. 1961-1982.
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  35. “A Novel Combined Experimental-Machine Learning Approach to Estimate the Probabilistic Capacity of RC Beams with Spatially Correlated Rebar Corrosion in Transverse and Longitudinal Directions,” (with S. Srivaranun, M. Akiyama, T. Yamada, and J. Xin), *Engineering Structures*, Elsevier, Vol. 279, 115588, pp. 1-17.
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  37. “Life-cycle Risk-based Optimal Maintenance Strategy for Bridge Networks Subjected to Corrosion and Seismic Hazards,” (with X. Han), *Journal of Bridge Engineering*, ASCE, Vol. 28, No. 1, 04022128, pp. 1-12 (**Editor’s Choice - featured on the journal homepage in the ASCE Library and the 2024 ASCE-AIME-ASME-IEEE-WES Alfred Noble Prize**).
  38. “Probabilistic Long-term Resilience of Deteriorating Bridges under Seismic and Deterioration Processes,” (with J. Qian and Y. Dong), *Bridge Engineering – Proceedings of the Institution of Civil Engineers*, ICE Publishing, Thomas Telford Ltd., Vol. 176, No. 2, 2023, in press, (published online: January 17, 2022).
  39. “Structural Identification via the Inference of the Stochastic Volatility Model Conditioned on the Time-dependent Bridge Deflection,” (with S. Jia, M., Akiyama, B. Han, and H. Xie), *Structural Safety*, Elsevier, Vol. 100, 2023, 102279, pp. 1-16.
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  44. “Probabilistic Multi-Objective Optimum Combined Inspection and Monitoring Planning and Decision Making with Updating,” (with S. Kim and B. Ge), *Structure and Infrastructure Engineering*, Taylor & Francis, Vol. 18, No. 10, 2022, pp. 1487-1505.
  45. “Experimental and Numerical Investigation on Wave Impacts on Box Girder Bridges,” (with D. Zhu and Y. Dong), *Structure and Infrastructure Engineering*, Taylor & Francis, Vol. 18, Nos. 10-11, 2022, pp. 1379-1397.
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  48. “Resilience of Aging Structures and Infrastructure Systems with Emphasis on Seismic Resilience of Bridges and Road Networks: Review,” (with L. Capacci and F. Biondini), *Resilient Cities and Structures*, Elsevier, Vol. 1, No. 2, 2022, pp. 23-41.
  49. “Multi-Objective Maintenance Optimisation of In-Service Asphalt Pavement Maintenance Scheduling Considering System Reliability Estimated via LSTM Neural Networks,” (with J. Xin, M. Akiyama, and M. Zhang), *Structure and Infrastructure Engineering*, Taylor & Francis, Vol. 18, No. 7, 2022, pp. 1002-1019.
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  51. “Probabilistic Optimum Bridge System Maintenance Management Considering Correlations of Deteriorating Components and Service Life Extensions,” (with S. Kim and B. Ge), *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, ASCE-ASME, Vol. 8, No. 3, 2022, 04022023, pp. 1-18.
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  53. “Digital Technologies Can Enhance Global Climate Resilience of Critical Infrastructure,” (with S.A. Argyroudis, S.A. Mitoulis, E. Chatzi, I. Lingov, J.W. Baker, I. Brilakis, K. Gkoumas, M. Vousdoukas, W. Hynes, S. Carluccio, O. Keou, and I. Linkow), *Climate Risk Management*, Elsevier, Vol. 35, 2022, 100387, pp.1-9 (**The 2022 European Council on Computing in Construction (EC<sup>3</sup>) Thorpe Medal**).



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56. “The Crux of Bridge and Transport Network Resilience-advancements and Future-proof Solutions,” (with S. A. Mitoulis, M. Domaneschi, J. R. Casas, G.P. Cimellaro, N. Catbas, and B. Stojadinovic), *Bridge Engineering – Proceedings of the Institution of Civil Engineers*, ICE Publishing, Thomas Telford Ltd., Vol. 175, No. 3, 2022, pp. 133-137.
57. “Transfer Prior Knowledge from Surrogate Modelling: A Meta Learning Approach,” (with M. Cheng, C. Dang, M. Beer, and X.-X. Yuan), *Computers & Structures*, Elsevier, Vol. 260, 2022, 106719, pp. 1-16.
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