

**Piotr D. Moncarz, Ph.D., P.E., S.C.P.M.**  
**Corporate Vice President and Principal Engineer**

**Professional Profile**

Dr. Piotr Moncarz is a Corporate Vice President at Exponent. Dr. Moncarz's efforts are directed particularly in the energy sector, including assistance in power plant development projects, and in the oil and gas industry in programs implementing risk management in system operations. With a background in civil engineering, Dr. Moncarz has worked in the areas of reinforced and prestressed concrete, the study of concrete distress due to material problems and adverse conditions, cracking of concrete, wood mechanics, steel structures, earthquake engineering and seismic assessments, field and analytical structural failure investigations, structural analyses of transmission towers, and investigations of offshore platform capsizing. Dr. Moncarz is a Stanford Certified Project Manager skilled at providing means and methods to project and program organization and management. For over 15 years Dr. Moncarz has worked on projects associated with energy. He leads Exponent's Energy Initiative Program with an emphasis on Liquefied Natural Gas (LNG), oil, natural gas, and renewable resources. Dr. Moncarz has conducted energy policy studies focusing on gas for Central Asian Republics and Bangladesh.

Dr. Moncarz serves as a Consulting Professor in the Civil Engineering Department of Stanford University. He is also Chairman of the U.S.-Polish Trade Council of Silicon Valley. Dr. Moncarz also serves on the Board of Directors of the San Francisco Global Trade Council, and the National Center for Research and Development of Poland.

**Academic Credentials and Professional Honors**

Ph.D., Structural Engineering, Stanford University, 1981  
M.S., Civil Engineering, University of Colorado, Boulder, 1975  
Bridge and Road Construction Vocational School, Poznan, Poland, 1968

John A. Blume Fellow; E. Kwiatkowski Economy Award of Poland 1997

**Licenses and Registrations**

Registered Professional Civil Engineer, California, #36916; Registered Professional Civil Engineer, Nevada, #013278; Registered Professional Civil Engineer, Florida, #0061456; Registered Professional Civil Engineer, Washington, #41579; Registered Professional Engineer, Missouri, #2008011611; Licensed Professional Civil Engineer, Saskatchewan, Canada, #7304; Licensed Professional Engineer, British Columbia, Canada, #N1537

Stanford Certified Project Manager, Stanford University Advanced Project Management, 2003

## Publications

Moncarz P, Uriz P. Impact of change in use or conditions of a structure on its safety and performance. Proceedings, Awarie Budowlane, 23<sup>rd</sup> Engineering Conference on Construction Failures, Szczecin-Miedzydroje, Poland, May 23–25, 2007. (In Polish).

Moncarz P, Griffith M. Collapse of a reinforced concrete dome in a wastewater treatment plant digester tank. Journal of Performance of Constructed Facilities, American Society of Civil Engineers 2007; 21(1), February.

Moncarz P, Krstulovic-Opara. Tougher concrete structures for LNG facilities. Project Facilities and Construction, Society of Petroleum Engineers 2006; 1(2), June.

Gupta A, Caligiuri R, Sire, R, Moncarz P. Fatigue damage assessment techniques for SPM anchorages. Proceedings, 16<sup>th</sup> International Offshore and Polar Engineering Conference, San Francisco, CA, May 28–June 2, 2006.

Boehm P, Kytomaa H, Moncarz P. LNG projects: Myths and realities of environmental and safety risks. American Bar Association Energy Committee Newsletter, October 2005.

Moncarz P. From the development through demolition—Life cycle of a facility. Proceedings, Awarie Budowlane, 22<sup>th</sup> Engineering Conference on Construction Failures, Szczecin-Miedzydroje, Poland, May 17–20, 2005. (In Polish).

Moncarz P, Osteraas J. Expert testimony in construction disputes. Proceedings, International Conference on Construction Arbitration, Makati City, Philippines, July 2004.

Moncarz P, Emami N, Wren J. Micro-biological attack on deep foundation concrete. Proceedings, 9<sup>th</sup> International Conference on Piling and Deep Foundations, Nice, France, June 2002.

Moncarz P, Noakowski P. Replacement of brick liner with steel flue. Proceedings, 57<sup>th</sup> Meeting of the International Committee on Industrial Chimneys (CICIND), Sydney, Australia, March 2002.

Moncarz P, Eiselstein L, Saraf V. Prestressing wire failures in prestressed concrete pipeline. Proceedings, Awarie Budowlane, 20<sup>th</sup> Engineering Conference on Construction Failures, Szczecin-Miedzydroje, Poland, May 22–26, 2001. (In Polish).

Moncarz P, Kilic S, Noakowski P. A preliminary analysis of the Tupras refinery stack collapse during the Koacaeli Earthquake of 17 August 1999. International Committee on Industrial Chimneys (CICIND) Report, Vol. 17, No. 1, March 2001.

Moncarz P, Shusto L. Damage observations from the Izmit (Koacaeli), Turkey Earthquake of August 17, 1999. International Committee on Industrial Chimneys (CICIND) Report, Vol. 17, No. 1, March 2001.

Moncarz P, Eiselstein L. Loss of composite system reliability due to long term environmental alteration. Proceedings, International Federation for Information Processing (IFIP), 9<sup>th</sup> Working Conference on Reliability and Optimization of Structural Systems, Ann Arbor, MI, September 25–27 2000.

Moncarz P, Taylor R. Hyatt failure from the perspective of a forensic engineer. Proceedings, American Society of Civil Engineers, Second Congress, San Juan, Puerto Rico, pp. 28–36, May 2000.

Moncarz P, Taylor R. Engineering process failure. Journal of Performance of Constructed Facilities, American Society of Civil Engineers 2000; 14(2), May.

Moncarz P, McDonald B, Caligiuri R. Earthquake failures of welded building connections. International Journal of Solids and Structures, Elsevier Science Ltd. 2000; 38:2025–2032, January 13.

Moncarz P, Coetze R, Noakowski P. Circular reinforced concrete shaft cracking caused by moisture differential. International Committee on Industrial Chimneys (CICIND) Report, Vol. 15, No. 2, September 1999.

Moncarz P, Coetz R, Noakowski P, Stegeman M. Stabilization of cracked chimney flues at Matimba Power Station, RSA. International Committee on Industrial Chimneys (CICIND) Report, Vol. 15, No. 2, September 1999.

Moncarz P, McDonald B, Caligiuri R. Earthquake failures of welded building connections. Proceedings, 6th Pan-American Congress of Applied Mechanics and 8th International Conference on Dynamic Problems in Mechanics, Applied Mechanics in the Americas, Vol. 7, Rio de Janeiro, Brazil, January 4–8, 1999.

Emami N, Moncarz P, Wren J. Microbiological attack on concrete: A threat to concrete infrastructure. International Conference on Forensic Engineering: A Professional Approach to Investigation, London, England, September 28–29, 1998.

Moncarz P, Caligiuri R, McDonald B, Sire R, Borduin W. Ultimate moment capacity of many steel connections: Failure in design, materials or workmanship? EUROMAT '98 Conference on Materials in Oceanic Environment, Lisbon, Portugal, July 22–24, 1998.

Moncarz P, Caligiuri R, McDonald B, Sire, R. Failures in steel frame building connections: A multi-billion dollar example of professional wishful thinking. International Federation for Information Processing 8<sup>th</sup> Working Conference on Reliability and Optimization of Structural Systems, Krakow, Poland, May 11–13, 1998.

Noakowski P, Moncarz P. Stiffness oriented design of R.C. Structures close-to-reality and practicable computation procedures and their applications. The Jubilee Publication to Commemorate the Birthday of Professor T. Godyckie–Cwirko, Gdansk Technical University, 1998.

Moncarz P. Engineering failures—A question of resource allocation. *Civil Engineering at Stanford University Newsletter*, No. 3, March 1997.

Moncarz P, Maslov L. Analysis of technological risk. Conference on Engineering and Environmental Safety Problems in Construction, Moscow State University of Civil Engineering, Moscow, Russian Federation, March 18–19, 1997. (In Russian).

Moncarz P, Horne R, Maslov L, Frankle R, Medhekar S, Marston T. An American recipe for Russian gas pipelines. *Journal of Oil and Gas Technology Market in Newly Independent States*, November 1996. (In Russian).

Moncarz P, Noakowski P. Damage by Hurricane Andrew to reinforced concrete stacks in Florida. Proceedings, 45<sup>th</sup> Meeting of the International Committee on Industrial Chimneys, CICIND, Orlando, FL, April 1996.

Moncarz P, Barrett R, Mallet R, Osteraaas J. Multimedia in dispute resolution. *The Construction Specifier*, Construction Specifications Institute, Vol. 49, No. 1, January 1996.

Moncarz P, Lahnert B, Hooley R, Osteraaas J. Analysis of stability of L'Ambiance Plaza lift-slab towers. *American Society of Civil Engineers Journal of the Performance of Constructed Facilities*, Vol. 6, No. 4; 232–245, November 1992.

Noakowski P, Schafer H, Moncarz P. Cracks in tower shafts—Causes, mechanism dimensioning, evaluation, damages, repairs. *VGB Kraftwerkstechnik* 1992; 72(9):749–757, September.

Noakowski P, van Dornick K, Moncarz P. Evaluation of building material on the basis of the measurement regulations—An Investigation into Industrial Chimneys. *VGB Kraftwerkstechnik* 1992; 72(3):232–240, March.

Burke M, Moncarz P. The Effects of natural aging on a polymer modified glass fiber reinforced concrete. 8<sup>th</sup> Biannual Congress of the Glass Fibre Reinforced Cement Association, Maastricht, Netherlands, October 22–24, 1991.

Moncarz P. The measurement and impact evaluation of corrosion deterioration in reinforced concrete chimneys. Proceedings, International Committee on Industrial Chimneys (CICIND) Meeting, Atlanta, GA, April 1991.

Moncarz P, Noakowski P. Quality of constructed facility: Definition of safety serviceability and economy in engineering decisions. Proceedings, 33<sup>rd</sup> Meeting of the International Committee on Industrial Chimneys, CICIND, Barcelona, Spain, April 1990.

Moncarz P, Noakowski P. Kiln degradation control by design and operation measures. *Journal of Performance of Constructed Facilities*, American Society of Civil Engineers 1990; 4(1), February.

Moncarz P, Rau C. Connections of jumbo sections, cracking, testing criteria and flaw tolerance. *Inzynieria i Budownictwo*, December 1990. (in Polish).

Moncarz P, Ross B. Evaluation, investigation and failure analysis of structures. 15<sup>th</sup> Conference on Our World in Concrete & Structures, Singapore, August 23–24, 1990.

Moncarz P, Noakowski P, Ross B. constraint cracking in continuous, pier supported R/C Beams. 1<sup>st</sup> Conference on Concrete and Structures, Malaysia, October 1989.

Moncarz P, Shyne J, Derbalian G. Failures of 108–inch steel pipe water main. *Journal of Performance of Constructed Facilities*, American Society of Civil Engineers, August 1987.

Moncarz P, Ross B. Importance of dimensional considerations to structural reliability. 2<sup>nd</sup> International Conference on Structural Failure, Product Liability, and Technical Insurance, Vienna, Austria, July 1986.

Moncarz P, Osteraas J, Wolf J. Designing for maintainability. *Civil Engineering*, June 1986.

Moncarz P, Osteraas J, Wolf J. Impact of design/construction/maintenance practices on structural deterioration. *Proceedings, Structural Division of the American Society of Civil Engineers Convention*, Seattle, WA, April 1986.

Moncarz P, Paulling J, Taylor R, Thomas J. Stability of damaged platform in waves. 4<sup>th</sup> International Conference on Behavior of Offshore Structures, Delft, The Netherlands, July 1985.

Moncarz P, Osteraas J, Curzon A. Modeling of reinforced concrete containment structures, design of concrete structures, the use of model analysis. Elsevier Applied Science Publishers, London, England, November 1984.

Moncarz P, Ross B. Structural failures and the side benefits of seismic codes. 8<sup>th</sup> World Conference on Earthquake Engineering, San Francisco, CA, July 1984.

Moncarz P, Krawinkler H. Modeling of steel and reinforced concrete structures for seismic response simulation. *Design for Dynamic Loading, the Use of Model Analysis*, London and New York: Construction Press, 1982.

Moncarz P. Considerations in small scale reinforced concrete models subjected to static and dynamic loading. *Proceedings, Sandia National Laboratories Workshop on Containment Integrity*, Arlington, VA, June 1982; SAND82–1659, October 1982.

Krawinkler H, Moncarz P. Modeling of steel and reinforced concrete structures for seismic response simulation. *International Seminar on Dynamic Modeling of Structures*, Building Research Station, Watford, England, November 1981.

Moncarz P, Gerstle K. Effects of non–linear connections in steel frames. *Journal of Structural Division*, American Society of Civil Engineers, August 1981.

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Krawinkler H, Moncarz P. Similitude requirements for dynamic models. American Concrete Institute Convention, Las Vegas, NV, March 1980.

Krawinkler H, Mills R, Moncarz P. Model studies on earthquake simulators. Society for Experimental Stress Analysis Spring Meeting, San Francisco, CA, Paper No. R-79-157, May 1979.

### **Presentations and Reports**

Moncarz P. Clean coal technology in the United States. Joint Technology Initiative for Clean Coal Conference organized by National Coordination Center for Research and Development Programs in European Union, Parliament (Sejm) of the Republic of Poland, March 23, 2007.

Moncarz P. Bangladesh gas sector issues, options, and the way forward. Asian Development Bank, July 2006.

Moncarz P. Risks and common misconceptions associated with LNG. Exponent Seminar, Washington, D.C., June 15, 2006.

Moncarz P. Risks and common misconceptions associated with LNG. Exponent Seminar, Houston, TX, March 30, 2006.

Moncarz P, Latanison R. The mechanism of corrosion: The effects of fabrication, exposure, and interaction with other materials. Transport Properties and Concrete Quality Workshop, Arizona State University, October 10-12, 2005.

Moncarz P. LNG: Hardening the water perimeter. Zeus Investigative Conference—LNG: Hardening the Perimeters, Houston, TX, December 13-15, 2004.

Moncarz P, Dahlen E, Brugger G, Duffner D. Digester Dome collapse at the Spokane advanced wastewater treatment plant. Exponent Report, December 2004.

Moncarz P. Regional economic cooperation in Central Asia Phase II, Year III. Asian Development Bank, September 2003.

Moncarz P, Ross B, Oстераas J, Luth G, Bozorgnia Y. Seismic collapse of reinforced concrete towers at Royal Palm Resort, Guam, USA. 25<sup>th</sup> Anniversary Conference on Our World in Concrete & Structures, Singapore, August 22-24, 2000.

Moncarz P, Maslov L. Prognosis of reliability and technological risk analysis in oil and gas systems. 8<sup>th</sup> Annual International Congress on Innovation Technologies for Oil-Gas Industry and Communication, Kazan, Russia, June 16-20, 1998.

Moncarz P, Hendrickson R. Cracked welds: A big problem waiting to happen. Association of General Contractors of California–Legal Advisory Committee, San Francisco, CA, February 10, 1998.

Moncarz P, Medhekar S. Risk management approaches in the evaluation of gas pipeline projects. Risk Management Conference for the Oil and Gas Industry, London, England, September 22–23, 1997.

Moncarz P, Maslov L. Intergrate models for providing safety engineering systems for cities. Scientific and Practical Conference on the Safety of Large Cities, Moscow, Russia, June 18–19, 1997.

Moncarz P. New power plants: From concept to KW's. 2<sup>nd</sup> Annual Conference on Successfully Developing Private Power in Central & Eastern Europe, Washington, D.C., May 29–30, 1997.

Moncarz P. The view from the marketplace. Symposium on International Education, Stanford University, CA, May 1, 1997.

Moncarz P, Horne R, Hutton G, Shah H. Seismic risk management for Washington State. Washington State Office of Emergency Preparedness–Washington State, Tacoma, WA, January 24, 1996.

Moncarz P, Osteraas J. Condition assessment of the existing pier servicing the Nakhodka Oil Terminal. Failure Analysis Associates, Inc. Report, August 1993.

Moncarz P, Horne R. Profile information of industrial facility (Omsk Region). Failure Analysis Associates, Inc. Report, June 1993. (In Polish).

Moncarz P, Luth G, Pellecchia A. Preliminary assessment of feasibility of proposed City of Moscow joint development projects. Failure Analysis Associates, Inc. Report, June 1993.

Moncarz P, Horne R. A strategic plan for conversion and how to start the process: An outsider's observation. International Conference on Conversion Problems, Moscow, Russia, October 1992.

Moncarz P, Noakowski P. Examples of the failure evaluation process. 4<sup>th</sup> International Conference on Structural Failure, Product Liability and Technical Insurance, Vienna, Austria, July 1992.

Moncarz P, Horne R. An assessment of the proposed expansion of the Nakhodka Oil Terminal. Failure Analysis Associates, Inc. Report, November 1992.

Moncarz P, Noakowski P, Rau C, Brunssen G. Goudey Station reinforced concrete chimney. Failure Analysis, Inc. Report, April 1991.

Moncarz P. The Loma Prieta Earthquake: A pictorial essay with engineering comment. PACAM II, Pan American Congress of Applied Mechanics, Valparaiso, Chile, January 2–5, 1991.

Moncarz P, Noakowski P. Analysis of the long term performance of prestressed concrete pipe. XI FIP Congress, Hamburg, West Germany, June 4–9, 1990.

Moncarz P, Osteraas J, Sharma M. Risk analysis of seismically induced damage to critical equipment components, Southvale Technologies. December 1989.

Moncarz P. Investigation of Station Square roof collapse. Burnaby, British Columbia, November 1989.

Moncarz P, Lahnert B. Investigation of Floor Slab Cracks. Sunnyvale, CA, September 1989.

Moncarz P, Luth G, Lahnert B. Investigation of steel erection failure. May 1989.

Moncarz P, Ross B. Failure investigation of concrete runway support system, Ederer 35 Ton Portal Gantry Crane. March 1989.

Moncarz P, Caligiuri R. Conceptual evaluation of selected support and transportation components of mobile service tower. February 1989.

Moncarz P. Application of system reliability concepts and techniques. National Science Foundation Workshop, University of Colorado, Boulder, CO, September 12–14, 1988.

Moncarz P. Performance and failure in construction. Construction Litigation Superconference, San Francisco, CA, December 4, 1987.

Moncarz P, Hooley R. Methodology evaluation in the seismic analysis and design of Titan IV launch feasibility mobile service tower. November 1987.

Moncarz P, Grove S. Investigation of dislodging of a precast concrete tread. November 1987.

Moncarz P, Rau C. Evaluation of Lamellar tearing and repairs. October 1987.

Moncarz P, Day S, William K. Equivalent material properties for reinforced concrete. June 1987.

Moncarz P, Johnston P. Study of subsidence and related damage due to the construction. April 1987.

Moncarz P. Construction failures: Generic and case study. 2<sup>nd</sup> Annual Construction Litigation Conference, New York, NY, April 9, 1987.

Moncarz P, Derbalian G. Prying action analysis of cable tray base plate and comparison of stiffness of channel with a bolt hole to a solid section. March 1987.

Moncarz P, Derbalian G, Thomas J, Lange C. A literature survey on the effects of oversize bolt holes in base plates and a recommended methodology for evaluating the acceptability of specific oversize bolt holes. February 1987.

Moncarz P. Structural failures—Are they necessary? Department of Civil Engineering, Stanford University, February 18, 1987.

Moncarz P. Rolm Building 3, Santa Clara, California: Review of structural integrity. December 1986.

Ross B, Moncarz P, Andrew S, Santana C. Structural and risk analyses of a helicopter accident. October 1986.

McCarthy R, Lange, R, Moncarz P. The Impact of “Downsizing,” the American Automobile Fleet on Overall Motor Vehicle Safety. August 1986.

Moncarz P, Bobroff C. Investigation of KYA–FM Radio Tower Failure. June 1986.

Moncarz P. Failure analysis. American Institute of Architects, Santa Clara Valley Chapter, April 23, 1986.

Moncarz P, Heiman T. Investigation of Golden Gate Bridge sidewalk cracking. February 1986.

Moncarz P, Heiman T. Investigation of parking garage slab. February 1986.

Moncarz P, Wolf J. Investigation of waterproofing failure at Palo Alto Redwoods. August 1985.

Moncarz P, Rau C. Analysis and testing of the Hilton Tower curtain wall. April 1985.

Moncarz P, Ross B. Investigation of catastrophic upset in the fluid catalytic cracking unit at Texas City refining petrochemical plant. March 1985.

Moncarz P, Shyne J, Derbalian G. Preliminary investigation of Conduit No. 27 failures at water main from Foothills Treatment Plant to Highlands Pump Station in Colorado. March 1985.

Moncarz P, Shyne J, Derbalian G. Supplementary investigation of Conduit No. 27 failures at water main from Foothills Treatment Plant to Highlands Pump Station in Colorado. March 1985.

Moncarz P, Rau, C. Structural analysis of the Coal Loadout Gallery at the Poplar River Mine. February 1985.

Moncarz P, Wolf, J. Investigation of General Electric Supply Company building collapse, March 1984, Anchorage, Alaska. January 1985.

Moncarz P. Side effects in structural performance. James Chinn Memorial Session of the American Society of Civil Engineers Conference, Denver, CO, April 30, 1985.

Moncarz P. Structural failures: Distribution and investigation. Structural Engineers Association of Central California, Sacramento, CA, January 8, 1985.

Moncarz P, Osteraas J. Major considerations in scale modeling of reinforced containment structures. Specialty Conference on Structural Engineering in Operating Nuclear Facilities, North Carolina State University, Raleigh, NC, September 1984.

Moncarz P, Osteraas J. Structural aspects of leakage in reinforced concrete containments—Experimental approach. 2<sup>nd</sup> Sandia National Laboratories Workshop on Containment Integrity, June 1984.

Moncarz P. Civil engineering failures. American Society of Civil Engineers, Marysville Branch, May 22, 1984.

Moncarz P, Johnston P, Shusto L, Thomas J. Model studies of gravity drydocks. May 1984.

Moncarz P. Long span structures. Architect's Licensing Examination seminar, American Institute of Architects, Santa Clara Valley Chapter, Santa Clara, CA, April 1984 and April 1985.

Moncarz P. Investigation of the deterioration of coal silos at Buckskin Coal Mine, Gillette, Wyoming. March 1984.

Moncarz P, Osteraas J, Curzon A. Experimental modeling techniques for reinforced concrete containment structures. December 1983.

Moncarz P. Structural failures—Their causes and lessons learned. American Society of Military Engineers, San Diego Chapter, San Diego, CA, December 6, 1983.

Moncarz P. Structural failure—Anatomy, impact, investigation. California Department of Transportation, Engineering Staff Meeting, Sacramento, CA, November 10, 1983.

Moncarz P, Rau, C. Investigation of failure of the coal loadout gallery at the Poplar River Mine. October 1983.

Moncarz P, Kadlex R. Failure investigation of the Kilroy Industries Building at 901 East Ball Road, Anaheim, California. August 1983.

Moncarz P, Thomas J, Taylor R, Paulling J. Stability of the Alexander Platform under conditions of the accident of May 1983.

Moncarz P, Osteraas J. Impact of calcium chloride addition to Portland cement concrete mix on the corrosion potential of post-tensioning tendons. February 1983.

Moncarz P, Osteraas J. Failure investigation of the California fabrics roof. November 1982.

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Moncarz P, Nelson E. Experimental investigation of shear capacity of anchorage bolts. July 1982.

Moncarz P, Tolles E. Study of the cause of the February 13, 1980, roof collapse at 919 Branston Road, San Carlos, California. July 1982.

Moncarz P, Hopkins. Study of the cause of slab cracking along the western wall of Tektronics Building, 3200 Coronado Drive, Santa Clara, California. November 1981.

Moncarz P, Thomas J, Rau C. Comments on the Norwegian inquiry commission report on the Alexander L. Kielland accident. June 1981.

Moncarz P, Krawinkler H. Theory and application of experimental model analysis in earthquake engineering. John A. Blume Earthquake Engineering Center, Report 50, Stanford University, Palo Alto, CA, June 1981.

Moncarz P. Effects of non-linear connections in steel frames. University of British Columbia, Department of Civil Engineering, Vancouver, British Columbia, March 1980.

Moncarz P. Effects of non-linear connections in steel frames. Report, Department of Civil, Environmental and Architectural Engineering, University of Colorado to American Iron and Steel Institute, December 1976.

### **Professional Affiliations**

Polish Academy of Science (member); Association of Energy Engineers (member); American Management Association (member); Institute for Energy Law (member); Institute for Energy Law Oil & Gas Committee (member); California Universities for Research in Earthquake Engineering (member); Academy of Technological Sciences of the Russian Federation (foreign member); American Society of Civil Engineers (fellow); Structural Engineering Association of Northern California (member); American Concrete Institute (member); American Concrete Institute Committee for Concrete Structures for Refrigerated Liquefied Gas Containment (LNG) (member); American Water Works Association (member); Prestressed Concrete Institute (member); Earthquake Engineering Research Institute (member); International Concrete Repair Institute (member); International Committee on Industrial Chimneys (member); United States Industry Coalition (member); Deep Foundation Institute (member); The Center for Liquefied Natural Gas (LNG) (member); The International Society of Offshore and Polar Engineers (member)