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## DR. MOHAMMAD NAJAFI, P.E., F.ASCE

Professor and Director, Construction Engineering & Management
Director, Center for Underground Infrastructure Research & Education (CUIRE)
Department of Civil Engineering - The University of Texas at Arlington
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# \* Term Goals for President-elect

Having been on the board of UESI for three years, I would like to continue my service as President-elect in the following areas:

- Getting younger members more engaged with UESI through education and training. Specifically:
  - Using UESI conference resources, providing educational materials for professors and webinars targeting university students,
  - o facilitating student attendance at UESI conferences and setting up poster sessions and research workshops,
  - o working with universities to develop a new graduate program in Utility Engineering and Surveying, and
  - o Helping to start a UESI student chapter at the civil engineering departments.
- Using new modes of dissemination, such as eLearning opportunities, help to develop programs
  for wide learning opportunities for novel technologies pertaining to utility engineering and
  surveying.
- Helping to expand certification programs (one already started for pipeline engineer water).
- Highlighting challenges pipeline owners are facing to legislatures and decision makers so government agencies can allocate more funding to this area of civil engineering.
- Encouraging development of asset management strategies and remaining life models so pipe failures can be predicted and prevented.



# DR. MOHAMMAD NAJAFI, P.E., F.ASCE

Associate Professor of Civil Engineering Director.

Center for Underground Infrastructure Research & Education (CUIRE) Department of Civil Engineering - The University of Texas at Arlington



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Dr. Najafi has more than 25 years of experience encompassing engineering, education, research, consulting, and management activities. Prior to starting his academic career, he spent more than 12 years working on various construction projects. As Director of the Center for Underground Infrastructure Research and Education (CUIRE) at the University of Texas at Arlington, Dr. Najafi has led research projects with funding agencies such as TxDOT, WaterRF, WERF, and NCHRP. He is a renowned international expert in pipeline engineering and trenchless technology and has been a frequent invited keynote speaker at national and international conferences. He is the author of four trenchless technology books published by McGraw-Hill (the latest one published in 2022).

#### Education

Louisiana Tech University Purdue University Texas Tech University

# Professional Registration

Texas, Civil (Reg. No. 76868)

#### **Professional Societies**

Founding Chair and Editor-in-Chief Emeritus, ASCE Journal of Pipeline Systems Engineering & Practice

American Water Works Association (AWWA) - Chair, Rehabilitation Standards Committee

American Society for Testing Materials (ASTM)

North American Society of Trenchless Technology (NASTT)

Academic Committee of Construction Industry Institute (CII) Faculty Advisor

Board Member representing GUIRE for the Underground Construction Technology Association (UCTA)

Board Member, Buried Asset Management Institute International (BAMI-I)

Chair of Research Committee, HDPE Pipe Municipal Board

## **AWARDS**

ASCE Pipelines Division Award of Excellence (2010) Stephen D. Bechtel Pipeline Engineering Award (2024)

### SAMPLE PROJECT EXPERIENCE

Use of Spray-Applied Pipe Linings (SAPLs) as a Structural Renewal for Gravity Storm Water Conveyance Conduits

The primary objective of this two-year research was to develop design equations for structural renewal of gravity storm water conveyance culverts using SAPL for both cementitious and resin-based materials and for circular and non-circular shapes. The equations developed in this project will use loading as detailed in the AASHTO's Load and Resistance Factor Design (LRFD) Bridge Design Specifications and will be applicable for round and arch shapes. All parameters of the host culvert that may impact the design thickness were considered.

Evaluation of the Value of Structurally Enhanced PVC Pipe
The purpose of this project was to evaluate strength and
characteristics of enhanced varieties of polyvinyl chloride (PVC) pipe.
The project report provided utilities with a balanced comparison of
pipe alternatives and specifically focus on the installation
requirements of the PVC materials to place these pipes into service.

# Durability and Reliability of Large Diameter HDPE Pipe for Water Main Applications

The main objectives of this project were to explore durability and reliability of large-diameter HDPE pipes in pressure applications in water utilities, and to identify features and characteristics as well as any limitations or issues of HDPE pipes in municipal water applications, such as design, installation, and maintenance. A protocol was developed for fatigue (cyclic surge pressure) testing of large diameter HDPE pipe as recommended by water pipeline professionals during the initial phase of this study.

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- Member, ASCE, 1993-present.
- Fellow, American Society of Civil Engineers (ASCE), 2010 present.
- Founder and Editor-in-Chief **Emeritus,** ASCE Journal of Pipeline Systems (JPS) Engineering and Practice, a Quarterly Technical Journal by American Society of Civil Engineers (2019 to Present).
- Founder and Editor-in-Chief ASCE Journal of Pipeline Systems (JPS) Engineering and Practice, a Quarterly Technical Journal by American Society of Civil Engineers (2010 to 2019).
- Pipeline Division Executive Committee (EXCOM)
  - o Past Chair: (2009 to Present)
  - o Chair: (2008-2009).
  - Vice Chair: (2007 2008)
  - Secretary (2006 –2007)
  - Member: (2005 2006).
  - International and Volunteer Chair, ASCE Pipelines 2015 Conference, Baltimore, Maryland, August 22-26, 2015.
  - Chair, International Pipelines 2013 Conference, Fort Worth Worthington Renaissance Hotel, held June 22-27, 2013, in Fort Worth with 800 attendees.
  - o Member and Task Co-chair of Sustainable Design of Pipelines Task Force, 2010).
  - Technical Co-Coordinator of ASCE International Pipeline Conference, July 8-11, 2007, Boston, Massachusetts.
  - Chair of the Pipe Bursting Manual of Practice (MOP) Task Committee, 2006.
  - o Chair of the Pipe Ramming Manual of Practice (MOP) Task Committee, 2007.
  - Editor of Pipeline Installation and Inspection Manual of Practice, 2005 through 2007.
  - Chair of the Horizontal Auger Boring Manual of Practice (MOP) Task Committee, 2002 through 2004.
  - Vice Chair of Horizontal Directional Drilling Manual of Practice (MOP) Task Committee.
  - Technical Program Chair and Editor of the International Pipeline Conference held July 2003 in Baltimore, Maryland. The *Proceedings* of the conference were published in a two-volume book (more than 2,000 Pages).
  - Member of the ASCE Codes & Standards Committee on Guidelines for Microtunneling. Author of Construction Aspects of the Guidelines for Microtunneling (1995).
  - o Member of the ASCE Pipeline Infrastructure Rehabilitation (PINS).

- Principal Member of Task Committee on Design Guidelines for Pipeline Renewal Systems.
- Member and Past Secretary, the Technical Committee on Trenchless Installation of Pipelines (TIPS).
- Steering Committee member for ASCE Construction Congress V, held October 5-7, 1997, in Minneapolis, Minnesota.
- Session Chair, ASCE 5<sup>th</sup> Materials Engineering Congress (MatCong5) titled Materials and Construction – Exploring the Connection, Cincinnati, Ohio, May 10-12, 1999.
- o Member of Editorial Board, ASCE Journal of Urban Planning and Development, 2006 and 2007.
- Member of Editorial Board, ASCE Journal of Infrastructure Engineering, 2006 and 2007.
- o Reviewer of ASCE Journal of Construction Engineering and Management.
- Pipeline Editor, ASCE Journal of Transportation Engineering, published monthly, 2004 to 2010.
- Vice Chair and Chair, ASCE Pipelines Research Committee (2006 to 2020).
- Technical Co-Chair of the ASCE International Pipeline Conference (July 8-11, 2007, in Boston).
- Member, American Society for Testing of Materials (ASTM). Member of Committees F36 and F-17 on Technology and Underground Utilities.
  - Chair, chair of task force to develop a Standard of Practice for Rehabilitation of Existing Potable Water Pipes with Spray-Applied Polyurea and Polyurethane Linings (2010-2014).
- Member, Transportation Research Board (TRB), member of the AFB70 (Utility Committee) and Expert Task Group for SHRP 2 Projects R01-B&C, "Utility Locating Technology Development Utilizing Multi-Sensor Platforms," and "Innovation in the Location of Deep Utility Pipes and Tunnels (2008-2012)."
- Member, National Utility Contractors Association. Member of the Trenchless Technology Committee (2007).
- Member, North American Society for Trenchless Technology (NASTT). Program Committee Member of Annual "No-Dig" Conferences.
  - Program Director for California Department of Transportation (CALTRANS)
     Academy for inspector training and certification program for horizontal directional drilling (HDD) projects. A total of four academies held during summer & fall 1999 and spring 2000.
  - Program Director for the Trenchless Technology Symposium held January 7 & 8, 1999, by the Midwest Chapter of NASTT (MSTT) at University of Missouri -- St. Louis campus with 140 attendees.
  - Executive Director, Midwest Society for Trenchless Technology (MSTT). A non-profit, regional chapter of the North American Society for Trenchless Technology (NASTT) for nine Midwest states to promote trenchless technology education and training for public benefit (May 2000 to May 2002). Member of the Board of Directors and Secretary (May 2002 to April 2007).
  - o Advisor, NASTT Student Chapter, 2006 to present.