

FINAL PROGRAM



PIPELINES 2020 CONFERENCE

A Virtual Experience | Aug. 10–13

Pipeline Engineering – Resiliency in Infrastructure



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SCHEDULE AT A GLANCE

MONDAY, AUGUST 10	
11:00 a.m.–2:00 p.m.	Pre-Conference Workshop: Seismic Design of Buried Water and Wastewater Pipelines
2:00 p.m.–3:00 p.m.	Break
3:00 p.m.–6:00 p.m.	Pre-Conference Workshop: Thrust Restraint Design of Buried Pipelines
TUESDAY, AUGUST 11	
10:00 a.m.–10:30 a.m.	Welcome to the UESI Pipelines 2020 Virtual Conference
10:00 a.m.–4:30 p.m.	Exhibit Hall Open
10:30 a.m.–11:30 a.m.	Concurrent Technical Sessions
11:30 a.m.–12:30 p.m.	Networking Break
12:30 p.m.–1:30 p.m.	Concurrent Technical Sessions
1:30 p.m.–2:30 p.m.	Networking Break
2:30 p.m.–3:30 p.m.	Concurrent Technical Sessions
3:30 p.m.–4:30 p.m.	Virtual Social Hour

WEDNESDAY, AUGUST 12	
10:00 a.m.–11:00 a.m.	Concurrent Technical Sessions
10:00 a.m.–4:00 p.m.	Exhibit Hall
11:00 a.m.–12:00 p.m.	Networking Break
12:00 p.m.–1:00 p.m.	Keynote: Peter Lake and Bechtel Lecture
1:00 p.m.–2:00 p.m.	Concurrent Technical Sessions
2:00 p.m.–3:00 p.m.	Networking Break
3:00 p.m.–4:00 p.m.	Concurrent Technical Sessions
THURSDAY, AUGUST 13	
10:00 a.m.–11:00 a.m.	Concurrent Technical Sessions
10:00 a.m.–4:00 p.m.	Exhibit Hall Open
11:00 a.m.–12:00 p.m.	Networking Break
12:00 p.m.–12:30 p.m.	Keynote: Melissa Marshall
12:30 p.m.–1:30 p.m.	Concurrent Technical Sessions
1:30 p.m.–2:30 p.m.	Networking Break
2:30 p.m.–3:00 p.m.	Poster Competition Winners & Conference Raffle Prizes
3:00 p.m.–4:00 p.m.	Concurrent Technical Sessions



AN INVITATION TO ATTEND



Letter from UESI President

Welcome to Pipelines 2020 Conference – A Virtual Experience, brought to you by UESI.

The Pipelines 2020 theme is *Pipeline Engineering – Resiliency in Infrastructure*. Resiliency is defined as the power or ability of a person or object to return to its original form after being stressed or stretched. We all like to think we are resilient people, but how can this apply to the utility infrastructure? Let's face it; our utility infrastructure is routinely stressed or overloaded. This means that we, as utility surveyors, technicians and engineers, must promote education, planning, surveying, design and construction practices that allow the utility infrastructure to be resilient while embracing our role as contributors to a sustainable product.

Pipelines 2020 is an educational event for developing a pathway to Resiliency in Infrastructure. Whether you are seeking knowledge about effective planning, surveying & geomatics, project design or innovative construction methods for the utility infrastructure, you have come to the right place. Industry experts will make valuable presentations on these subjects, and you can also get a more hands-on education while meeting with consultants, suppliers and contractors in the exhibit hall.

Also, I would like to extend a special welcome to those attending on Public Sector or Student scholarships.



Enjoy Pipelines 2020 and this virtual delivery.

Lynn E. Osborn, P.E., FASCE
UESI President 2020
Owner, LEO Consulting, LLC

Welcome to the 2020 UESI Pipelines Conference A Virtual Experience!

Our last Pipelines Conference in 2019 took place in Nashville, the capital of country music. This year we had to make the difficult decision to translate the program into a virtual setting to ensure the health and safety of all participants.

This conference has always provided a great forum for pipeline and utility practitioners to meet to exchange ideas, share knowledge, learn from each other, and swap stories. As always, we have an outstanding lineup of technical sessions, panel discussions, and two pre-conference workshops.

We extend our gratitude to the many volunteers who have spent a lot of time preparing and recording a content-driven conference that will maximize benefits to participants via a different approach adapted to what the current climate allows.

We have created new and different ways for people to interact with one another as well as with vendors and sponsors in our virtual tri-dimensional exhibit floor and networking zoom rooms. We would like to thank all of our vendors and partners who are continuing to support this program. We would not be able to do it without you.

Let's embrace this unique opportunity to learn and network and make the best of it!

Please, stay safe and we will see each other soon!



Juan D. Gomez, Ph.D., P.E.
Director
San Antonio Water System



Jim Geisbush, P.E., P.M.P., FASCE
Sr. Civil Engineer
Central Arizona Project



Conference Steering Committee

Conference Co-Chairs

Jim Geisbush, P.E., P.M.P., FASCE
Sr. Civil Engineer, Central Arizona Project

Juan D. Gomez, Ph.D., P.E.
Director, San Antonio Water System

Technical Program Co-Chairs

J. Felipe Pulido, P.E., M.ASCE
Senior Project Manager, OBG Part of Ramboll

Mark Poppe, P.E., M.ASCE
Principal Engineer, Brown and Caldwell

Advisors to Technical Co-Chairs

Jeffrey W. Heidrick, P.E., ENV SP, M.ASCE

Associate Project Manager, Water, Burns & McDonnell

Mark S. Mihm, P.E., ENV SP, CDT, M.ASCE

Professional Associate, Water/Wastewater, Senior Project Manager, HDR

Exhibits Chair

Shah Rahman, MBA, M.ASCE
Practice Leader, KCI Technologies

Publicity & Media Coordinators

Robert Carpenter, Aff., M.ASCE
Oildom Publishing

Mike Kezdi
Associate Editor, Trenchless Technology and North American Oil & Gas Pipelines

ASCE Pipelines Division ExCom Liaison

Anna Pridmore, Ph.D., P.E., M.ASCE
Vice President, Pipeline Solutions, Structural Technologies

International Coordinator

Sandra Rolfe-Dickinson, CEng, P.Eng.
Technical Director, Pipetechnics Ltd.

Education Co-chairs

Renee Mayer, P.E., M.ASCE
Transportation Utility Program Manager, HDR Engineering, Inc.

Erin McGuire, P.E., M.ASCE
CDM Smith



PRE-CONFERENCE WORKSHOPS

MONDAY, AUGUST 10

SEISMIC DESIGN OF BURIED WATER & WASTEWATER PIPELINES

11:00 a.m.–2:00 p.m.

Lead: *Sri Rajah*, PhD, P.E., G.E., S.E., P. Eng., F.ASCE – Principal Engineer, CDM Smith

Speakers: *Craig Davis*, Ph.D., P.E., G.E. – Water System Resilience Program Manager and Seismic Manager, Los Angeles Department of Water & Power; *Brad P. Wham*, Ph.D. – Research Assistant Professor, University of Colorado Boulder; *Roberts McMullin*, P.E., M.ASCE – Senior Civil Engineer, East Bay Municipal Utility District (EBMUD); *Dr. Spyros Karamanos*, Ph.D., M.ASCE – Professor of Structural Mechanics University of Thessaly; *Mike McReynolds*, P.E., S.E., M.ASCE – Senior Expert, Engineering, Brown and Caldwell; *Bob Walker*, P.E., Life M.ASCE, MSCE, MPA – Vice President, Technical Development & Standards, Aegion|Underground Solutions; *Michael Dadik*, P.E., M.ASCE, Principal Structural Engineer, Carollo Engineers

ASCE is developing a new manual of practice (MOP) on the subject of seismic design of buried water/wastewater pipelines, with an eventual objective of developing a design standard for the seismic design of buried pipelines. Proposed draft of the MOP is scheduled to be completed in 2020. In this workshop, members of the task committee will present the organization and key technical components of the new MOP to keep the engineering community informed of the upcoming practice improvements and provide opportunities for the workshop attendees to offer feedback and participate in the ensuing technical discussions.

Objective: To present a review of the organization and key contents of the upcoming new MOP on seismic design of buried water & wastewater pipelines.

Registration Fee: \$45

Number of PDHs: 3 hrs

THRUST RESTRAINT DESIGN OF BURIED PIPELINES

3:00 p.m.–6:00 p.m.

Lead: Stephen Shumaker, P.E., M.ASCE, BCEE – Senior Civil Engineer, CDM Smith

Moderator: *Sri Rajah*, PhD, P.E., G.E., S.E., P. Eng., F.ASCE – Principal Engineer, CDM Smith

Speakers: *Henry Bardakjian* P.E., M.ASCE – Consulting Engineer; *Keith Bushdiecker* P.E. – Sr. Water/Wastewater Engineer, HDR; *William Whidden*, P.E., M.ASCE – Project Manager/Senior Engineer, Woolpert; *Allen Cox*, P.E., M.ASCE – Envision SP, Regional Director Ductile Iron Pipe Research Association; *Bill Brick*, PE, M.ASCE, – Senior Project Manager CDM Smith

This workshop presents the upcoming ASCE’s Manual of Practice on Thrust Restraint Design of Buried Pipelines. This MOP presents a unified approach to thrust restraint design for all pipe materials, developed based on pipe-soil interaction principles to improve current practice. Speakers from the task committee will present an overview of the MOP, including: thrust restraint fundamentals, historical development of thrust restraint design practices, geotechnical parameters and soil-pipe interaction, an improved approach to thrust block design, analytical models for continuous and segmented pipelines; and, simplified approach for restrained joint pipelines. Special considerations required for common thrust restraint design and construction issues will also be presented.

Objectives:

- Present the manual of practice for thrust restraint design of buried pipelines
- Provide an introduction to the fundamentals of thrust restraint design along with a summary of historical development leading to current practices
- Discuss geotechnical parameters and soil-pipe interaction, including: Contribution of frictional resistance; Soil parameters for assessing axial behavior of restrained pipelines; Contribution of Passive Earth Pressure Resistance; Soil parameters for assessing transverse behavior of restrained pipelines
- Present an improved approach for the design of thrust blocks in buried pipelines
- Discuss material-specific considerations for thrust restraint design for steel, concrete, ductile iron, PVC, polyethylene, and fiberglass pipe materials
- Present detailed analytical models for bends in continuous and segmented buried pipelines
- Present a simplified unified empirical approach to restrained joint design for bends in buried pipelines
- Discuss the extension of the design approach from bends to other sources of thrust, such as tees, valves, reducers, dead ends, and multiple fittings
- Discuss special design considerations for common thrust restraint design and construction pitfalls.
- Present practical thrust restraint design examples. (Participants are encouraged to bring their own calculators to fully participate in these design exercises)

Registration Fee: \$45

Number of PDHs: 3 hrs

POSTER VIEWING IN EXHIBIT HALL
TUESDAY 10:00 A.M.–THURSDAY 2:00 P.M.

New this year: Poster Competition – Posters will be judged by a panel of members based on the significance and rigor of the science, clarity of presentation, and other factors.



SPECIAL EVENTS

TUESDAY, AUGUST 21

WELCOME

10:00 a.m.–10:30 a.m.

Join us for the introductory event of the Pipelines 2020 Conference! Start the morning with a welcome from **Thomas W. Smith, III**, ENV SP, CAE, F.ASCE, Executive Director, American Society of Civil Engineers, and **Jean-Louis Briaud**, Ph.D., P.E., D.GE, Dist.M.ASCE, ASCE President 2020, followed by UESI Pipelines 2020 Conference Co-Chairs: **Jim Geisbush**, P.E., P.M.P., F.ASCE, Sr. Civil Engineer, Central Arizona Project; and **Juan D. Gomez**, Ph.D., P.E., Director, San Antonio Water System.

The UESI 2020 president **Lynn E. Osborn**, P.E., F.ASCE will talk about the institute activities this year, followed by **Anna Pridmore**, Ph.D., P.E., M.ASCE, Vice President, Pipeline Solutions, Structural Technologies, who will close with a few words on behalf of the Pipelines Executive Committee.



Jean-Louis Briaud

Jean-Louis Briaud, Ph.D., P.E., D.GE, Dist.M.ASCE, ASCE President 2021

Jean-Louis Briaud, Ph.D., P.E., D.GE, Dist.M.ASCE, is a distinguished professor of civil engineering and director of the National Geotechnical Experimentation Site at Texas A&M University. He is also holder of the Spencer J. Buchanan chair at Texas A&M University's Zachry Department of Civil Engineering.

Briaud recently completed a three-year term on the ASCE board of direction and previously served as president of the Geo-Institute. He was also president of the Federation of International Geo-Engineering Societies. In 2014, Briaud was recognized as a Distinguished Member of ASCE.

Briaud started his career four decades ago as an assistant professor at Texas A&M University. He has also worked as a consultant on numerous projects, including highway embankments, oil tanks, dams, bridges, levees, shallow and deep foundations and soil erosion. He is a licensed professional engineer in Texas.

Additionally, he has written two books, "*Geotechnical Engineering*" and "*The Pressuremeter*", and published about 300 articles and reports. He has received the Ralph Peck Award from ASCE, the CGS Geoffrey Meyerhof Foundation Engineering Award from Canada and the Honorable Aitalyev Medal from Kazakhstan. Jean-Louis will talk about some of ASCE's recent initiatives and why every civil engineer should be a member.

EXHIBIT HALL OPEN

10:00 a.m. – 4:30 p.m.

CONCURRENT TECHNICAL SESSIONS

10:30 a.m. – 11:30 a.m.

NETWORKING BREAK

11:30 a.m. – 12:30 p.m.

CONCURRENT TECHNICAL SESSIONS

12:30 p.m. – 1:30 p.m.

NETWORKING BREAK

1:30 p.m. – 2:30 p.m.

CONCURRENT TECHNICAL SESSIONS

2:30 p.m. – 3:30 p.m.

VIRTUAL SOCIAL HOUR

3:30 p.m. – 4:30 p.m.

Visit any or all of the listed zoom rooms:



Johanna Dahlman

Wellness Room

Join **Johanna Dahlman**, the Founder of Local Latin, an international events firm dedicated to the Health & Wellness industry, for a brief address about staying healthy while working from home and stress management in the current climate.

Stop and Chat Room

Have you missed your peers? This is an open dialogue room for you to say hello and catch up with your friends in an informal session.

Game Room hosted by Sherlock's Escapes

Who is Agent X, Masked Vigilante and freelancer for Sherlock's Escape Detective Agency? That's what you'll need to find out in order to collect the very generous 7-figure reward. Luckily, you have figured out where their secret lair is located! Now unmasking this crime fighter is as simple as taking that rickety, old elevator down to his lair and revealing their identity. Or is it?



Are you ready to dive right into this world of vigilantes and villains to unravel their secrets and mysteries?

Trivia Room

Join our MC, Mr. Bob Anderson of ASCE, for a fun Civil Engineering trivia game. The participant/s with the most correct answers will win an Amazon gift card.

POSTER VIEWING IN EXHIBIT HALL
TUESDAY 10:00 A.M.–THURSDAY 2:00 P.M.

New this year: Poster Competition – Posters will be judged by a panel of members based on the significance and rigor of the science, clarity of presentation, and other factors.



WEDNESDAY, AUGUST 12

CONCURRENT TECHNICAL SESSIONS

10:00 a.m. – 11:00 a.m.

EXHIBIT HALL

10:00 a.m. – 4:00 p.m.

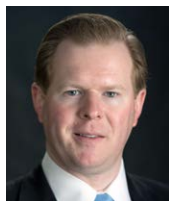
NETWORKING BREAK

11:00 a.m. – 12:00 p.m.

AWARDS & KEYNOTE

12:00 p.m. – 1:00 p.m.

Please join us in celebrating the achievement by the winners of the 2020 Stephen D. Bechtel Pipeline Engineering Award and the ASCE Pipeline Division Award of Excellence.



Peter Lake

Keynote Speaker: Peter Lake

Peter Lake has served as a Board member of the Texas Water Development Board since December 15, 2015. Governor Greg Abbott designated him Chairman in February 2018.

Lake has held a variety of financial roles across a number of industries. Previously, he acted as director of research and head of automated trading at Gambit Trading, a member firm of the Chicago Board of Trade and the Chicago Mercantile Exchange. In this capacity, he led the firm's market research initiatives and directed the development of its first automated trading programs. As one of the firm's proprietary market makers, he also traded interest-rate derivatives, primarily focusing on U.S. Treasury bond futures.

He has also served as director of business development for Lake Ronel Oil Company, where he focused on financial analysis of upstream oil and gas opportunities. In addition, he served as director of special operations for VantageCap Partners. In this position he played a key role in the due diligence, valuation, and transactional aspects of the successful divestment of the firm's primary investment.

Lake graduated with a bachelor of arts in public policy with a specialization in economics from the University of Chicago, and he earned a master's of business administration from Stanford University's Graduate School of Business.

Lake was born and raised in Tyler, Texas. Lake's term will expire February 1, 2021.

Presentation Topic:

Defeating Drought & Fighting Flood – Texas Takes on the Future

"Texas is a land of perennial drought interrupted by the occasional devastating flood." Isaac Cline (Texas State Meteorologist, 1927). Texas has always dealt with highly variable weather, but unlike 90 years ago, the state's growing population of 30 million people must weather the storms to ensure the world's 10th largest economy by GDP keeps rolling. Learn how the TWVDB fulfills its mandate to secure future water supply and mitigate flood risk through a comprehensive model integrating science, planning, and financing.

Included in Full, Speaker, Moderator, Municipal, Student, and Monday Daily registration rates.

2020 Stephen D. Bechtel Pipeline Engineering Award

Established by the ASCE Board of Direction in 1970, this award recognizes outstanding achievements in pipeline engineering. The Bechtel Foundation donated funds to support the award in honor of contributions made by Stephen D. Bechtel. The award is made annually to an ASCE member who has made a significant contribution to the advancement of pipeline engineering in research, planning, design, or construction. The 2020 Bechtel Award recipient is George Ruchti.



George Ruchti

George Ruchti, M.ASCE

George F. Ruchti, Jr. has been selected as the recipient of the 2020 ASCE Stephen D. Bechtel Pipeline Engineering Award. With 55 years of hard work and leadership in the civil infrastructure industry, one of Mr. Ruchti's most valuable contributions to the Pipelines industry has been his unique ability to educate owners, engineers, and contractors on the pipeline design and installation process in a manner that everyone could understand – success through simplicity.

This approach created major pipeline projects that could be implemented in the field with minimal complications. Through this focus on collaboration among all stakeholders early in the process, George has delivered superior pipeline design work, and helped to facilitate manufacturing and construction on many high-profile projects. His willingness and dedication – and taking the time necessary to ensure success throughout all aspects of the project – is what built George's impeccable reputation in the Pipelines industry.

As a steward for the profession, George has many accomplishments across a full spectrum of the industry, including pipeline enhancements that were patented in the 1970's and still utilized today. He blazed a trail for the adoption of the use of steel pipelines, leading to installation of hundreds of miles along the East Coast. His influence was extensive and included design, manufacturing, installation and long term protection.

ASCE Pipeline Division Award of Excellence

The ASCE Pipeline Division Award of Excellence was established in 1988 by the Pipeline Division. It is given to a Fellow, Member, or Associate Member of ASCE who is adjudged by the Executive Committee to have given outstanding continuous and conspicuous service to the profession, ASCE, and the Pipeline Division. This year's recipient is Tennyson Muindi



Tennyson Muindi

Tennyson Muindi, P.E., F.ASCE

Senior Associate, McMillen Jacobs Associates

Tennyson Muindi has 30 years of experience and has actively participated as project manager or project engineer in a wide range of geotechnical engineering projects. Mr. Muindi's primary area of interest is in pipeline infrastructure and underground construction. His experience covers a broad range of service areas including planning, implementation, and reporting of geotechnical investigations; conceptual level planning and design studies; detailed design studies and preparation of contract documents.



CONFERENCE AGENDA



Mr. Muindi is currently serving as the past Chair of UESI Pipelines Division EXCOM. He was the Conference Co-Chair of the 2018 Pipelines Conference held in Toronto, Canada. He has been actively involved with the ASCE Pipelines Division Technical Committee for Trenchless Installation of Pipelines (TIPS) since 2004 and served as its Chair from 2010 to 2016. While serving on TIPS, he was involved in the development of new MOPs and updating of existing MOPs that included HDD, Pipe Bursting and Auger Boring.

During the period 2001 to 2010 he served as a member of the Transportation Research Board Committee on Soil Structure Interaction. He also served on the American Council of Engineering Companies/Massachusetts (ACEC/MA) as Chair/Co-Chair of Leadership Education Committee during the period 2003 through 2008.

A licensed professional engineer in Massachusetts, New York, Rhode Island and Virginia, he holds a bachelor's degree in civil and environmental engineering from the University of Rhode Island, and a master's degree in civil engineering from the University of Massachusetts at Amherst.

CONCURRENT TECHNICAL SESSIONS

1:00 p.m.–2:00 p.m.

NETWORKING BREAK

2:00 p.m.–3:00 p.m.

CONCURRENT TECHNICAL SESSIONS

3:00 p.m.–4:00 p.m.

POSTER VIEWING IN EXHIBIT HALL
TUESDAY 10:00 A.M.–THURSDAY 2:00 P.M.

New this year: Poster Competition – Posters will be judged by a panel of members based on the significance and rigor of the science, clarity of presentation, and other factors.

THURSDAY, AUGUST 13

EXHIBIT HALL

10:00 a.m.–4:00 p.m.

CONCURRENT TECHNICAL SESSIONS

10:00 a.m.–11:00 a.m.

NETWORKING BREAK

11:00 a.m.– 12:00 p.m.

KEYNOTE

12:00 p.m.–12:30 p.m.



Melissa Marshall

Keynote Speaker: Melissa Marshall

Melissa Marshall is the founder of Present Your Science, a consulting company that provides on-site group workshops, conference sessions, and 1:1 coaching. She is on a mission: to transform how scientists, engineers, and technical professionals present their work. That's because she believes that even the best technical ideas are

destined to remain undiscovered unless presented in a clear and compelling way that sparks innovation and drives adoption.

For over a decade, she's traveled around the world to work with Fortune 100 corporations, institutions and universities, teaching the proven strategies she's mastered through her consulting work and during her time as a faculty member at Penn State University. Melissa is the go-to expert that places like NASA, the American Heart Association, Pfizer, and Harvard Medical School consult when they need to present their world-changing research.

In 2019, Microsoft recognized Melissa's work in dramatically changing the way technical professionals use PowerPoint to present their science by naming her a Microsoft MVP or Most Valuable Professional.

Presentation Topic: *Talk Nerdy to Me: Strategies for Successful Technical Communication*

Have you ever tried to talk about a new technical project, only to be met with blank stares from your audience? Are you tired of the lifeless, text heavy, bullet-pointed slides that make up most presentations? Did you ever have a slam-dunk winner of a technical proposal go in front of a key stakeholder only to be rejected because they didn't "get it?" Join our keynote speaker, scientific presentations expert Melissa Marshall, to learn some practical strategies to immediately transform your technical presentations! Go from blank stares to buy in with your next talk.

CONCURRENT TECHNICAL SESSIONS

12:30 p.m.–1:30 p.m.

NETWORKING BREAK

1:30 p.m.–2:30 p.m.

POSTER COMPETITION WINNERS, CONFERENCE RAFFLES AND INTRODUCTION TO UESI PIPELINES 2021 CONFERENCE

2:30 p.m.–3:00 p.m.

Harshit Shukla, S.M.ASCE, this year's posters coordinator, will reveal the winners of the poster competition.

Shah Rahman, MBA, M.ASCE, Practice Leader, KCI Technologies, our exhibits chair, will present the lucky raffle winners.

Jason Lueke, Ph.D., M.ASCE, National Practice Leader, Trenchless, Associated Engineering, co-chair of the UESI Pipelines 2021 Conference will introduce next year's destination!

CONCURRENT TECHNICAL SESSIONS

3:00 p.m.–4:00 p.m.

SAVE THE DATE

	PIPELINES 2021 CONFERENCE	KEY DATES
	Calgary, Alberta Aug. 3–6	Registration Open: January 27, 2021 Hotel Booking Open: January 27, 2021 Early Bird Deadline: June 3, 2021 Hotel Deadline: July 8, 2021 Advance Registration Deadline: July 1, 2021 Cancellation Deadline: July 1, 2021

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THANK YOU TO OUR TECHNICAL COMMITTEE

Mark A. Poppe, P.E., M.ASCE, Technical Program Co-Chair | Juan Felipe Pulido, P.E., M.ASCE, Technical Program Co-Chair
Jeffery W. Heidrick, P.E., ENV SP, M.ASCE and Mark S. Mihm, P.E., ENV SP, M.ASCE, Advisors to the Technical Program Co-Chairs

We would like to thank the individuals who participated as part of the 2020 Technical Committee. Everyone worked as a team starting with abstract, paper and poster reviews and through the construction of this year's Technical Program. To all those continuing to assist as Track Chairs and Moderators, we thank you in advance for your valuable contributions which will make the conference a success!

Ahmed Al-Bayati	Darren Dunker	Alan Hutson	Charles Marsh	Fatemeh Rezaeifar
Becky Andrus	Christine Ellenberger	Celine Hyer	Ram Mazumder	Ad Shatat
Michelle Antilla	Jeffrey Farnsworth	Doug Jenkins	Renee Mayer	Jonathan Shirk
Jennifer Baldwin	Michael Fleury	Shelbi Johnson	Benjamin McCray	Jeffrey Shoaf
Juan Camilo Barrera	Amin Ganjidoost	Khalid Kaddoura	Erin McGuire	Harshit Shukla
Adam Braun	Hadi Ganjidoost	Spyros Karamanos	Richard Mielke	Jerry Snead
Volodymyr Brazhenko	Andre Garces	Brent Keil	Antonio Miglio	Andrew Sparks
William Brick	Alan Garri	Josh Kercho	Babak Mohammadi	Rosser Standifer
James Bryan	Matt Gaughan	Zahra Kohankar	Muhammad Mudassar	Andy Stanton
Urso Campos	Shaoqing Ge	Kouchesfehiani	Adam Murdock	Duane Strayer
Robert Card	Mark Geraghty	Satish Kumar	Jenny Naranjo	Alan Swartz
Dave Caughlin	Alisa Gruber	Jonathan Lapsley	Peter Nardini	Amir Tabesh
Emily Cernic	Ahmad Habibian	Mike Larsen	Sanjay Negi	Jeni Tatum
Scott Christensen	Christopher Haeckler	Mike Lehrburger	Richard Nichols	Berk Uslu
Joseph Conti	Neil Harvey	Guohua Li	Jaime Ordonez	Bob Walker
Andrew Costa	Brent Hauser	Bryon Livingston	Rowena Patenaude	Justin Waples
Kyle Couture	Jim Herbert	Susanne Lockhart	Kalyan Piratla	Andrew Williams
Randolph Crews	Charles Herckis	Wendy Lundeen	Anna Pridmore	Scott Williams
Amin Darabnoush Tehrani	Steve Hirai	Mohammadreza Malek Mohammadi	Shah Rahman	
Beatriz Dongell	Yafei Hu		Aditya Ramamurthy	

POSTER PRESENTATIONS

Posters will be available for viewing from Tuesday 10:00 a.m.–Thursday 2:00 p.m.

New this year: Poster Competition – Attendees and a panel of expert judges will vote on their own choice of Best Poster!

720097 – A Component-Based Approach in Assessing Sewer Manholes – Khalid Kaddoura, Tarek Zayed
740055 – Stray Currents, Corrosive Soil and Wall Loss, Oh My! Harnessing Decision Intelligence and Inspection Technologies to Prevent Main Failures – Eric Toffin, James Stewart, John Lamica
742002 – Prediction of Pipe Failures in Wastewater Networks Using Random Forest Classification – Razieh Tavakoli, Ali Sharifara, Mohammad Najafi
743502 – Field investigation of Metal Multi-Pipe Culvert under Shallow Cover – Husam H. Hussein, Issam Khoury, Shad M. Sargand, Fouad T. Al Rikabi
744087 – An Adaptive Machine Learning Approach to Reliability Analysis of Gas Pipelines Exposed to Seismic Hazards – Soroush Zamanian, Nariman L. Dehghani, Abdollah Shafieezadeh
744141 – How to Get From Point A-B – Cross-Country Alignment Saves \$\$ for Rural Water Transmission Line – Hunter B. Hanson
744757 – Leveraging Pressure-Monitoring Data for Water Pipeline Condition Assessment Using Neural Networks and Evolutionary Optimization Algorithms – Ahmad Momeni, Kalyan R. Piratla

744801 – Development of a Fuzzy Inference Performance Rating System for Drinking Water Pipelines Using a Comprehensive List of Input Variables – Hao Xu, Anmol Vishwakarma, Sunil K. Sinha
756002 – Decision-making for Pipe Rehabilitation in Water Pipe Networks Subject to Earthquakes Using Simulated Annealing – Abhijit Roy, Binaya Pudasaini, Mohsen Shahandashti
756004 – Jim Creek Siphon Rehabilitation – Greg Smith
756005 – Joining Water with Water: Planning and Design of a Pipeline Connecting One New Groundwater Well to Nine Existing Wells – Alan M. Moon, Stephen Maldonado Jr.
756007 – Seismic Damage and Renewal Cost Analysis of Buried Water Pipelines: A Python-based Computational Framework – Ram Krishna Mazumder, Abdullahi M. Salman, Yue Li, Xiong Yu
756008 – Testing of PVC Liners under Simulated Grouting Pressure – Joshua Treitz, Ian Moore, Neil Hault
756009 – Transmission or Distribution: A Matter of Semantics? Or is it Both? – Kyle H. Kaspar, Jason Kirby
756010 – Unveiling Actual System Pressures – Amy Marroquin, Calvin Durel



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Pipeline Engineering – Resiliency in Infrastructure

CONCURRENT TECHNICAL SESSIONS

The UESI Pipelines 2020 Virtual Experience will occur during Eastern Daylight Time (EDT).

Tuesday, August 11, 10:30 am to 11:30 am

TRACK A Planning & Design Rosser Standifer	TRACK B Trenchless Jeffrey Shoaf	TRACK C Condition Assessment Jonathan Shirk	TRACK D Construction and Rehab Alisa Gruber/Rich Mielke	TRACK E UES/Multidiscipline Doug Jenkins/Jerry Snead
<p>SESSION A1 PIPE MATERIALS SCOTT WILLIAMS</p> <p>535184 – AWWA C305 – A New Standard for CFRP Renewal and Strengthening of PCCP Speaker(s): Mehdi Zarghamee</p> <p>535114 – Designing an Economical FRP System for Pipeline Rehabilitation Speaker(s): Firat Sever, Mo Ehsani</p> <p>534937 – Thin-Walled Synthetic Fiber Reinforced Concrete Pipe Performance Under Cyclic Loading Speaker(s): Fouad Al Rikabi, Shad M. Sargand, Issam Khoury, John Kurdziel, Safiya Ahmed, Husam Hussein</p>	<p>SESSION B1 HORIZONTAL DIRECTIONAL DRILLING JEFFREY SHOAF</p> <p>524086 – 12-inch Water Line Horizontal Directional Drill across Hunting Bayou using Cartridge Method Speaker(s): Christine Kirby, Eric Hernandez, Anh Hunter, Samson D'Silva</p> <p>532037 – 24-inch Force Main by HDD for Dallas Water Utilities Speaker(s): James Bryan, Marty Paris</p> <p>742619 – Parametric Study on Ground Settlement of Sand and Clay Layer due to Horizontal Directional Drilling Speaker(s): Asif Ahmed, MD, Azijul Islam</p>	<p>SESSION C1 REHABILITATION AND WATER BREAKS JONATHAN SHIRK</p> <p>744390 – Sliplining 120-Inch RCP Wastewater in Dallas, Part 2 Speaker(s): Marty Paris</p> <p>744752 – CIPP for Tomorrow – What is Needed? Speaker(s): Michael Gipsov</p> <p>535617 – Estimating Level of Service Interruption from Water Main Breaks as Consequence of Failure Speaker(s): Amin Ganjidoost, Karl Ivan San Luis, Craig M. Daly</p>	<p>SESSION D1 CRITICAL REHABILITATIONS ALISA GRUBER</p> <p>535316 – Rehabilitation of a Critical High-Pressure Transmission Main Underneath and in the Vicinity of a Major Highway Speaker(s): Murat Engindeniz, Roman Obzejta, Sara Mathis, Kristen Peterson</p> <p>535568 – A Modern Solution for an Old Problem – Utilizing both CIPP and CFRP for Aerial Pipeline Rehabilitation Speaker(s): Tim Peterie, Amber Wagner</p> <p>535577 – Thorny Details of the Rose Canyon Trunk Sewer Rehabilitation Speaker(s): Casey Raines, Greg Watanabe</p>	<p>SESSION E1 MATERIALS AND RISKS DOUG JENKINS</p> <p>535483 – A 60-year History of the Efficacy of Polyethylene Encasement of an Iron Pipe Installation in an Aggressive Soil Environment Speaker(s): Lewis Horn</p> <p>535572 – Characterization of Graphene Reinforced Epoxy Coatings for Internal Surface of Oil and Gas Pipelines Speaker(s): Zhibin Lin, Xingyu Wang, Xiaoning Qi, Dante Battocchi, Mingli Li</p> <p>534305 – Detecting High Risk Zones Using a Spatial Clustering of Pipe Breaks Speaker(s): Thomas Chen, Kate Zhao, Craig M. Daly</p>



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Tuesday, August 11, 12:30 pm to 1:30 pm

TRACK A Planning & Design Rosser Standifer	TRACK B Trenchless Jeffrey Shoaf	TRACK C Condition Assessment Jonathan Shirk	TRACK D Construction and Rehab Alisa Gruber/Rich Mielke	TRACK E UES/Multidiscipline Doug Jenkins/Jerry Snead
<p>SESSION A2 PLANNING SCOTT WILLIAMS</p> <p>534246 – Preparing for the Unexpected During Design and Construction Speaker(s): Sierra McCreary, Timothy Weaver</p> <p>535385 – Balancing Present and Future Needs Speaker(s): Nathan Boyd, Thomas Dumm</p> <p>535044 – Pojoaque Basin Regional Water System Modeling and Challenges Speaker(s): Julia Chivington-Buck, Eric Smith, Stephen Shumaker, Sri Rajah, Leonel Almanzar, Chris Ott, Juan Samaniego, Jerry Edwards, Fabian Montana, James Kim</p>	<p>SESSION B2 PANEL SUNIL SINHA</p> <p>535268 – Applying Risk Management Principles and Innovative Technologies to Effectively Manage Water Infrastructure Speaker(s): Sunil Sinha, Ahmad Habibian, Devan Thomas, Matt Carter, Jian Zhang</p>	<p>SESSION C2 FAILURE ANALYSIS SHAOQING GE</p> <p>536199 – Does Acoustic Wave Propagation Detect Damage in Large Diameter Cast-Iron? Speaker(s): Ali Alavi, Marshall Kennedy, Cameron White</p> <p>744185 – Uncertainty Quantification of the Structural Capacity of Pipelines Using Separation of Variables Methodology Speaker(s): Juan Jimenez-Chong, Omer Erbay, Frederic Grant, Peter Nardini, Murat Engindeniz</p> <p>535620 – Shifting to a Monetized Quantitative Approach for Risk Analysis Using Property Damages Speaker(s): Amin Ganjidoost, Ivan San Luis, Craig M. Daly</p>	<p>SESSION D2 REHABBING METHODS AND EMERGENCIES ALISA GRUBER</p> <p>535493 – A Novel Water Pipeline Asset Management Scheme Using Hydraulic Monitoring Data Speaker(s): Kalyan R. Piratla, Ahmad Momeni</p> <p>742403 – Line Stopping the City of Houston’s Large Diameter Transmission Line for Valve Replacement Speaker(s): Eric Hernandez, Gregory Henry, Singarpal Sekhon</p> <p>744034 – Successfully Navigating the Challenges of Emergency Interceptor Repair Under the Wall Street of Whiskey Speaker(s): David Hafner, Heather Dodds, Nick Ulliman, Michael McReynolds</p>	<p>SESSION E2 RISK MANAGEMENT – DECISIONS, DECISIONS JOE CONTI</p> <p>525454 – Mains, Trains, and Automobiles: Utilizing Fort Worth's Risk Assessment Data to Drive Sanitary Sewer Rehabilitation Speaker(s): Josh Kercho, Liam Conlon</p> <p>743824 – Resilience of Sanitary and Combined Sewer Networks to Extreme Weather Events Speaker(s): Soroush Zamanian, Abdollah Shafieezadeh, Mehrzad Rahimi</p> <p>743247 – Leveraging a Risk-Based Decision Strategy for Pipeline Management at the City of Houston Speaker(s): David Totman, Fazle Rabbi</p>



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Pipeline Engineering – Resiliency in Infrastructure

Tuesday, August 11, 2:30 pm to 3:30 pm

TRACK A Planning & Design Rosser Standifer	TRACK B Trenchless Jeffrey Shoaf	TRACK C Condition Assessment Jonathan Shirk	TRACK D Construction and Rehab Alisa Gruber/Rich Mielke	TRACK E UES/Multidiscipline Doug Jenkins/Jerry Snead
<p>SESSION A3 PANEL KYLE COUTURE</p> <p>750185 – Nuclear Power Generation – Buried Piping Panel Discussion Speaker(s): Mark Geraghty, Christopher Burton, David Smith</p>	<p>SESSION B3 USE OF PILOT TUBES ADAM BRAUN</p> <p>742062 – Sewer Alignment Complexities in Historic Downtown Temecula Speaker(s): Steve Friedman</p> <p>736127 – Trenchless Soil Stabilization of Marl Prior to Using Pilot Tube Method to Install New Sanitary Sewer Line Speaker(s): Stephen Matheny, Daniel DiLeggi, Ben Croy, Britt Babcock</p> <p>743689 – Finding Big Leaks with Big Data: Case Studies from an Internet-of-Things Leak Detection Platform Speaker(s): Matthew Barrett, Robert Welch, Zohreh Andalibi, Tatiana Baeva, Adam Chan</p>	<p>SESSION C3 ASSESSMENTS AND LARGE DIAMETER PIPE MIKE LARSEN</p> <p>744264 – Dallas Water Utilities Proactive Assessment Program Conserves Water and Prevents Catastrophic Pipeline Failures Speaker(s): George Schaaf, Michelle Antilla, Felipe Lopez, Johnny Partain</p> <p>741123 – Performing an RCM/RCD Workshop on the World’s Largest Prestressed Concrete Pipe Speaker(s): Jim Geisbush</p> <p>744343 – How El Paso Water Proactively Manages a Critical 20-mile Cross City Water Transmission Main Speaker(s): George Schaaf</p>	<p>SESSION D3 DECIDING WHAT TRENCHLESS IS RIGHT RICK MIELKE</p> <p>742050 – Decision Making Process for Identifying Optimum Trenchless Method for Corrugated Metal Pipe Rehabilitation in Stormwater Speaker(s): Olufunso Ogidan, Nefi Gazra, Roberto Reyna, Noelle Gaspard</p> <p>743475 – Mission Critical CMP Replacement Speaker(s): Craig Camp</p> <p>744389 – Large Diameter Cured-in-Place Pipe Rehabilitation of Twin 90-Inch Culverts in Environmentally Sensitive Area Speaker(s): Andrew Costa</p>	<p>SESSION E3 USING DRONES AND ALTERNATE METHODS SCOTT CHRISTENSEN</p> <p>744256 – Seeing from Above, What’s Below: How Drones can be used in Pipeline Design & Construction Speaker(s): William Byland, Natasha Lombard, Michael Liga, Gregory Henry, Venus Price</p> <p>744512 – A, B, C – 3D Merging the Above-Ground World With What is Below Speaker(s): Joseph Murphy, Peter Borsack</p> <p>744709 – Utility Coordination in Alternative Delivery Methods for Transportation Projects – Lessons Learned from In-Market Design Phase (Bid process) Speaker(s): Juan Camilo Barrera, Tom Bodera</p>



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Wednesday, August 12, 10:00 am to 11:00 am

TRACK A Planning & Design Rosser Standifer	TRACK B Trenchless Jeffrey Shoaf	TRACK C Condition Assessment Jonathan Shirk	TRACK D Construction and Rehab Alisa Gruber/Rich Mielke	TRACK E UES/Multidiscipline Doug Jenkins/Jerry Snead
<p>SESSION A4 MODELING AND INSPECTION ROSSER STANDIFER</p> <p>534866 – Utilizing District Metered Area Water Loss Analysis in a Mid-size Utility Speaker(s): Jim O’Dowd</p> <p>534291 – Design of Sprayed Cementitious Liners Within Corrugated Steel Pipes Speaker(s): Ian Moore</p> <p>534096 – One Liner to Rule Them All – King County Interbay 48-inch Sewer Forcemain Rehabilitation Story Speaker(s): Matthew Tooley, Steve Lindsey, Raynold (Ray) Nickel, Jeffrey Schmidt</p>	<p>SESSION B4 UNDERGROUND BUT NOT FORGOTTEN KHALID KADDOURA</p> <p>744604 – “Underground, Under Where?” How Many Communities are Turning to Trenchless Applications to Solve Their Challenges Speaker(s): Jason Swartz</p> <p>744648 – Case Study: Repurposing an Abandoned 3.2 Mile 66-inch RCP Gravity Sewer as a New Force Main Speaker(s): Andy Stanton, Sandy Scott-Roberts, Richard ten Bosch</p> <p>741852 – Reducing Damages to Underground Infrastructure: Utility Locators’ Perspectives Speaker(s): Ahmed Al-Bayati, Louis Panzer, Khalid Kaddoura</p>	<p>SESSION C4 PANEL CELINE HYER</p> <p>735044 – Asset Management Victories and Future Needs Speaker(s): Devan Thomas, Celine Hyer, Ahmad Habibian, Sunil Sinha</p>	<p>SESSION D4 TRENCHLESS REPAIRS ALAN HUTSON</p> <p>742891 – The City of San José Demonstrates Flexibility and Resolution to Accomplish Yard Piping Repairs Safely and Quickly Speaker(s): Bernadette Visitacion-Sumida</p> <p>752898 – Geopolymers in Trenchless Applications: Changing the Industry: Learn More About Why, What, When, Where & Who Benefits Speaker(s): Steve Henning</p> <p>753493 – Assessment and Application of Trenchless Technologies for the Rehabilitation of Sewer Laterals Speaker(s): Joanne Carroll</p>	<p>SESSION E4 I/I ANALYTICS ANDREW SPARKS</p> <p>535310 – Transmission Main Leak Monitoring to Reduce Risk and Non-Revenue Water Speaker(s): Paul Murray, Waseem Khan</p> <p>737033 – Analyzing Existing Flow and Precipitation Records to Allocate Resources for Sewer Inflow and Infiltration Studies Speaker(s): Charles Herckis</p> <p>743372 – Acoustic-based Underground Utility Mapping at the Annacis Island WWTP Speaker(s): Michael Metcalf, Kenneth Hui, Dave Hoffman, Victor Castellanos, Mike Thorstenson, Gary Skipper, Grey Tarkenton</p>



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Wednesday, August 12, 1:00 pm to 2:00 pm

TRACK A Planning & Design Rosser Standifer	TRACK B Trenchless Jeffrey Shoaf	TRACK C Condition Assessment Jonathan Shirk	TRACK D Construction and Rehab Alisa Gruber/Rich Mielke	TRACK E UES/Multidiscipline Doug Jenkins/Jerry Snead
<p>SESSION A5 SURGES AND TRANSIENTS ROSSER STANDIFER</p> <p>743481 – Analyzing Transient Responses of Pumped Pipelines using an Analytic-Energy-Based Approach Speaker(s): David McPherson, Ahmad Malekpour</p> <p>744452 – A Tried and True Method of Surge Control for Water Transmission Pipelines Speaker(s): Alan Hutson, Tom Hill</p> <p>743951 – Numerical Methods for Analyzing Surge, What's Behind Those Messy Equations Speaker(s): Thomas Hill</p>	<p>SESSION B5 FROM CCTV TO HDD ADAM BRAUN</p> <p>740310 – Developing a Proactive City-Wide Stormwater CCTV Master Plan and Condition Assessment Program, San Antonio, TX Speaker(s): Noelle Gaspard, Nefi Garza, Olufunso Ogidan, Martin Hernandez</p> <p>735614 – Four Trenchless Water Main Installations Under an Active Railroad in Southeast Florida Speaker(s): Janine Alexander, Wilhelmina Montero</p> <p>744058 – Simplified Application of the Delft Method to Estimate Maximum Allowable Annular Pressure in HDD Speaker(s): Inshik Park, Alireza Bayat</p>	<p>SESSION C5 PRIORITIZATION TOOLS KALYAN PIRATLA</p> <p>736496 – A Data-Driven Approach to Determine If New Water Mains Construction Can Cause Neighboring Old Water Mains to Break Speaker(s): Muhammad Tak, James Kaifer, Warren McHenry</p> <p>535351 – Mechanical Performance of a Pressure Pipe CIPP Liner with Stress Concentration Effects Associated with Local Defects Speaker(s): Shawn Kenny, Xiaooan He</p> <p>743570 – Prioritizing Pit Cast Iron Small Diameter Watermains For Assessment Speaker(s): Rabia Mady</p>	<p>SESSION D5 COSTS AND STANDARDS RICH MIELKE</p> <p>743565 – The High Cost of Using AWWA's Buried No Longer Pipe Service Life Table for Capital Budgeting Speaker(s): Gregory Baird</p> <p>744445 – Forecasting Pipeline Construction Costs Using Time Series Methods Speaker(s): Sooin Kim, Bahram Abediniangerabi, Mohsen Shahandashti</p> <p>742686 – 2019 Second Edition of AWWA M55 HDPE Pipe Speaker(s): Amster Howard, Camille Rubeiz</p>	<p>SESSION E5 PANEL SRI RAJAH</p> <p>535663 – Unified Approach to Thrust Restraint Design Panel Session Speaker(s): Stephen Shumaker, Sri Rajah, Henry Bardakjian, Randall Conner, Martin McCabe</p>



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Wednesday, August 12, 3:00 pm to 4:00 pm

TRACK A Planning & Design Rosser Standifer	TRACK B Trenchless Jeffrey Shoaf	TRACK C Condition Assessment Jonathan Shirk	TRACK D Construction and Rehab Alisa Gruber/Rich Mielke	TRACK E UES/Multidiscipline Doug Jenkins/Jerry Snead
<p>SESSION A6 ALTERNATIVE DELIVERY MENTHODS JOSH KERCHO</p> <p>736902 – How to Make Your Engineer Think Like a Contractor and Vice Versa Speaker(s): Alisa Gruber, Beth Kochur, Bill Williams</p> <p>744795 – How a Successful Texas Public-Private Partnership Brings Water for the Next Generation Speaker(s): Marisa Vergara, Bill Williams, Carissa Shelley</p> <p>743495 – CMaR Delivery of Critical Water and Wastewater Pipelines Speaker(s): Steve Pool, Tanner Randall</p>	<p>SESSION B6 LARGE TUNNELS RICHARD NICHOLS</p> <p>712639 – Risks and Rewards in Completing a Design/Build Tunneling Project Speaker(s): Michael Ramirez, Ivan Hernandez</p> <p>743838 – Crossing the 4th Largest City in the U.S. with a 96"/84" Pipeline: A Case Study Speaker(s): Jared Barber, Jason Ward, Alan Hutson, Melinda Silva</p> <p>744580 – Crossing the Red, Managing Construction Changes on a Challenging 1200 mm Microtunnelling River Crossing in Winnipeg, Manitoba, Canada Speaker(s): Adam Braun, Nathan Kehler, Jordan Thompson, Stacy Cournoyer</p>	<p>SESSION C6 REHABILITATIONS, CULVERTS AND INFILTRATION MIKE LARSEN</p> <p>743702 – DeKalb County: A Large Utility Gaining Efficiencies to Accurately Rehab Assets in a Timely Fashion Speaker(s): Gerardo Boquin, Burhan Shaikh, Darren Eastall</p> <p>743799 – Estimating Groundwater Infiltration in Sewers Speaker(s): Kevin Einfinger, Patrick Stevens</p> <p>744644 – Culvert Profiling Using Digital Image Correlation Speaker(s): Amin Darabnoush Tehrani, Zahra Kohankar Kouchesfehiani, Mohammad Najafi</p>	<p>SESSION D6 PANEL JIM ANSPACH</p> <p>755000 – Near Misses and Close Calls – Risk Management in Utility Construction Panel Session Speaker(s): Jim Anspach, Steve Lang, Paul Bizier</p>	<p>SESSION E6 INFRASTRUCTURE RESILIENCE JERRY SNEAD II</p> <p>751568 – Development of a Consequence of Failure Model and Risk Matrix for Water Pipeline Infrastructure Systems Speaker(s): Anmol Vishwakarma, Sunil Sinha</p> <p>714868 – Surge Phenomenon During Slow Valve Closures in Short Pipelines Speaker(s): Guohua Li</p> <p>535521 – What is Pipeline Resilience? Speaker(s): Maury Gaston</p>



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Thursday, August 13, 10:00 am to 11:00 am

TRACK A Planning & Design Rosser Standifer	TRACK B Trenchless Jeffrey Shoaf	TRACK C Condition Assessment Jonathan Shirk	TRACK D Construction and Rehab Alisa Gruber/Rich Mielke	TRACK E UES/Multidiscipline Doug Jenkins/Jerry Snead
<p>SESSION A7 CATHODIC PROTECTION AND CORROSION ZAC BOLEN</p> <p>720087 – Developing a Decision-Support-System to Optimize Rehabilitation and Replacement Programs for Ferrous Distribution Mains in Municipal Water Systems Speaker(s): Khalid Kaddoura, Bruce Gehrig, Ahmed Al Bayati</p> <p>742418 – Probabilistic Corrosion Modeling to Estimate Design Life of Pipes Speaker(s): Chris Atkins, Paul Lambert, Sean Greenwood, Mossan Mahmood</p> <p>743659 – Cathodic Protection of a Long-Distance, Multi-Material Water Pipeline Speaker(s): Christopher Sheldon, Chelsea Teall, Shaun Tidwell</p>	<p>SESSION B7 EVALUATIONS AND GUIDELINES FOR TRENCHLESS JEFFREY SHOAF</p> <p>743309 – Evaluation of Ground Displacements and Pulling Forces During Pipe-Swallowing Replacement of Water and Wastewater Pipes in Well-Graded Sand Speaker(s): Samuel Ariaratnam, Xufeng Yan, Baosong Ma, Cong Zeng</p> <p>744560 – Evaluation of Construction Methods for a 135-inch Diameter Tunnel Crossing of a Major Highway Bridge Speaker(s): Michael Liga, Yovani Zelaya, Kevin Tran</p> <p>736954 – Design Guidelines for the Steel Pipelines of a Major Project in San Antonio, Texas Speaker(s): Henry Bardakjian, Mark Bush</p>	<p>SESSION C7 PREDICTING TOOLS AND SAVINGS WITH ALTERNATE ALIGNMENTS SHAOQING GE</p> <p>744133 – One If by Air, Two If by Land – Savings with Aerial Surveying for Transmission Lines Speaker(s): Hunter Hanson, Mike Dooley</p> <p>736001 – Predicting Condition of Sanitary Sewer Pipes with Gradient Boosting Tree Speaker(s): Mohammadreza Malek Mohammadi, Mohammad Najafi, Nazanin Salehabadi, Ramtin Serajiantehrani, Vinayak Kaushal</p> <p>718417 – Kennedy Newton Main and the Challenges of Design and Construction of Large Diameter Watermains in Urban Areas Speaker(s): Yariv Ben-Shooshan, Amer Nawaz</p>	<p>SESSION D7 SURVIVING EARTHQUAKES AND SOME HISTORY ALAN HUTSON</p> <p>744788 – Positive Unintended Consequences – How Campbell Lake Gravity Sewer Pipeline Line Survived a Magnitude 7.1 Earthquake Speaker(s): David A Persinger, Maury Gaston</p> <p>744523 – Valve Houses at Houston Ship Channel Speaker(s): Benjamin McCray, Manny DePau, Anh Hunter</p> <p>742499 – DC Water At Work: Mitigating Century Old Infrastructures From Historic Storms Speaker(s): Steve Bian, Renni Zhao, Tayo Olatunji, Dunbar Regis</p>	<p>SESSION E7 FUNDING AND INTERNATIONAL METHODS JERRY SNEAD II/DOUG JENKINS</p> <p>744640 – Ten Things You Need to Know About State Revolving Fund American Iron and Steel Requirements Speaker(s): Kirsten Anderer</p> <p>752167 – How Innovative and Adaptive Solutions were used to Solve Challenges Faced by Contra Costa Water District's Canal Replacement Project Speaker(s): Colin Dudley, Peter Bellows, Peter Stabb, Sarah La Vallee</p> <p>742424 – Mutual Learning: A Comparison Between the Dutch and International Utility Surveying Approaches Speaker(s): Ramon ter Huurne, Léon olde Scholtenhuis, André Dorée</p>



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Thursday, August 13, 12:30 pm to 1:30 pm

TRACK A Planning & Design Rosser Standifer	TRACK B Trenchless Jeffrey Shoaf	TRACK C Condition Assessment Jonathan Shirk	TRACK D Construction and Rehab Alisa Gruber/Rich Mielke	TRACK E UES/Multidiscipline Doug Jenkins/Jerry Snead
<p>SESSION A8 SEISMIC ENGINEERING AND RESILIENCY JOSH KERCHO</p> <p>744330 – Seismic Resilience Enhancement of Water Pipe Networks Using Hybrid Metaheuristic Optimization Speaker(s): Binaya Pudasaini, Mohsen Shahandashti</p> <p>744342 – Evaluating Welded and Mechanical Pipe Joint Strength for Seismic Design: Part 1 – Testing Protocol Speaker(s): Chris Sundberg, Terri Tovey</p> <p>744041 – Newly Developed Seismic Resilient Steel Pipe Joint Safeguards Pipeline Structural Integrity during Severe Geohazard Events Speaker(s): Spyros A. Karamanos</p>	<p>SESSION B8 MATERIALS AND THEN SOME RICHARD NICHOLS</p> <p>744210 – Save Money by Shopping Around – Competing Pipe Materials for Large Diameter Pipelines Speaker(s): Eric Engelskirchen, Chad Sharbon, Travis Williams</p> <p>744005 – Experimental Investigation of Steel Lap-Welded Pipe Joint Performance Under Severe Axial Loading Conditions in Seismic or Geohazard Areas Speaker(s): Spyros Karamanos, Brent D. Keil, Fritz Gobler, Richard Mielke, Gregory Lucier, Giannoula Chatzopoulou, Gregory Sarvanis, Dimitris Fappas</p> <p>713933 – Method to Evaluate Fatigue Life Calculations in PVC Pipe Speaker(s): Steven Folkman, Jay Parvez</p>	<p>SESSION C8 FROM DELIVERY TO INSTALLATION KALYAN PIRATLA</p> <p>736974 – Beating the Clock: Leveraging the Flexibility of Design Build to Fast Track Pipe Delivery Speaker(s): Alisa Gruber, Bill Williams, Ricky Wu</p> <p>721906 – A Compelling Comparison of Field Measurements and Numerical Modeling in Pipeline Surge Pressure Evaluation Speaker(s): Brandon Billing</p> <p>751646 – Proof Positive: Pipe Prove-out Procedure Promotes Proper Installation During Construction Speaker(s): George Farah, Amanda Voss</p>	<p>SESSION D8 REHAB METHODS AND ANALYSIS ROWENA PATENAUDE</p> <p>744769 – Framework for Life-Cycle Cost Analysis of Trenchless Renewal Methods for Large Diameter Culverts Speaker(s): Ramtin Serajiantehrani, Mohammad Najafi, Mohammadreza Malek Mohammadi, Vinayak Kaushal</p> <p>744592 – Internal Joint Bonding of Prestressed Concrete Cylinder Pipe: The Improbable Project Speaker(s): Gregory Smith</p> <p>731194 – Bonded or Unbonded Liners? How Longitudinal Bending Impacts Pipe Lining Design and Performance Speaker(s): David P. Kozman</p>	<p>SESSION E8 PANEL ANNA PRIDMORE</p> <p>753687 – Ethics Session Speaker(s): Anna Pridmore, Tara Hoke, Stephanie Slocum</p>



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Thursday, August 13, 3:00 pm to 4:00 pm

TRACK A Planning & Design Rosser Standifer	TRACK B Trenchless Jeffrey Shoaf	TRACK C Condition Assessment Jonathan Shirk	TRACK D Construction and Rehab Alisa Gruber/Rich Mielke	TRACK E UES/Multidiscipline Doug Jenkins/Jerry Snead
<p>SESSION A9 WATER SUPPLY AND PRESSURES ZAC BOLEN</p> <p>741981 – Lake Perris Modifications – Putting the Long-term Benefits Above Cost Speaker(s): Michael McReynolds, Andrew Brainard, Wayne Thilo, Cherylle Barrido</p> <p>744564 – Keeping the Water Moving: Solving Pressure Problems with Multiple Constraints in Stillwater, Oklahoma Speaker(s): Lars Ostervold, Jennifer Henke, William (Bill) Millis, David Barth</p> <p>742271 – Diagnosing Pumping Instabilities in the Southern Delivery Raw Water System Speaker(s): Thomas Charles, Joseph Rasmussen, Mark Allen</p>	<p>SESSION B9 REHABILITATION AND OTHER TOPICS KHALID KADDOURA</p> <p>741798 – Too Pure Water from Orange County Water District Results in Pipeline Rehabilitation Project Speaker(s): Sandy Scott-Roberts, Benjamin Smith</p> <p>743493 – Has This Been Tried Before? - Using Trenchless Technology in a Revolutionary Sewer Tunnel Rehabilitation Speaker(s): Randall Parks</p> <p>744493 – Revising the City of Houston’s Standard Butterfly Valve Detail for Large Diameter Butterfly Valves Speaker(s): Michael Salinas, Warren Green, Kevin Tran</p>	<p>SESSION C9 LARGE DIAMETER SPECIAL INSTALLATIONS JONATHAN SHIRK</p> <p>742525 – Design of Large Diameter Steel Pipe Tees and Wyes Speaker(s): Russell Gibson, Steven Metzler, Himan Jalali, James Johnson, Peter Bartels</p> <p>736544 – Large Diameter Welded Steel Pipe Deflection, Working Beyond the Traditional Speaker(s): Kevin Martinez, Phil Ryan, Ted Davis</p> <p>744466 – Construction of 176-in and 156-in Diameter Cast-in-Place Reinforced Concrete Siphons Expanding the East Low Canal Speaker(s): Kylie Pelzer</p>	<p>SESSION D9 TRENCHLESS REHABS ROWENA PATENAUDE</p> <p>753284 – Five Trenchless Rehab Projects Save Failing Large Diameter Combined Sewer Structures in Albany, NY Speaker(s): Keith Walker, Rebecca Caldon</p> <p>744117 – Structural Renewal of Non-Circular Pipe: Trenchless Rehabilitation in a Congested Utility Corridor Speaker(s): Carl Krogness, Kara Britt, Michael A. Owen</p> <p>743732 – Dallas Water Utilities Uses Sliplining to Rehabilitate Aging 24-Inch Water Transmission Main Speaker(s): Kevin C. Minkler, Eduardo Valerio, Thelma Box</p>	<p>SESSION E9 LIFESPAN, SOCIAL COSTS AND WELDING JERRY SNEAD II/DOUG JENKINS</p> <p>535636 – Joint Strength or “Efficiency” Factors of Steel Lap-Welded Joints for Use in Water Conveyance Speaker(s): Spyros Karamanos, Robert Card, Giannoula Chatzopoulou, Gregory C. Sarvanis</p> <p>736362 – Life of a 96-inch Water Line Speaker(s): Gregory Henry, James Wilson</p> <p>742022 – A Framework for Evaluation of Social Costs of Open-cut Pipeline Replacement for Sanitary Sewers Speaker(s): Vinayak Kaushal, Mohammad Najafi, Ramtin Serajiantehrani, Mohammadreza Malek Mohammadi</p>



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On-Demand Sessions

Presentation Number	Presentation Title	First User Listed
744830	Advanced Desktop Screening Techniques for Feedermain Networks to Drive Condition Assessment Programs – Winnipeg, MB, Canada	Christopher Macey
752230	Applying Survival Analysis to Pipeline Data: Gaps and Challenges	Hao Xu
753127	Built to Last: Underground Piping for District Heating and Cooling	Steven Buckler
744381	Critical El Paso Force Main with High Consequence of Failure Undergoes Multifaceted Condition Assessment	George Schaaf
751443	Descriptive Analysis of National Water Pipeline Infrastructure Systems	Sunil Sinha
744152	Design of Large Pipelines Crossing Growth Faults in the Houston Area	Arne Nervik
744252	Eagles, Prairie Dogs, and Jumping Mice – Oh My! Installing a Large Diameter Pipeline within Sensitive Environmental Areas	Stephanie Cecil
744823	Emerging Technologies and Systems for Gas Pipeline Leak Detection	Ibukun Awolusi
741160	Expansion of SPF Application for Ground Settlement	Hayato Nakazono
742320	Experimental Assessment of Pipeline Connection Response to Transverse Loading	Brad Wham
744547	How to Reduce Bending Moments on Large Butterfly Valves Belowground	Chris Sundberg
741929	Machine Learning – Getting Even Smarter Addressing Water Main Breaks	David Hughes

Presentation Number	Presentation Title	First User Listed
744780	Making the Flexible Pipe “Solid”: Achieving a Quality Flexible Pipe Installation	Ben Stephens
743816	Overcoming the Challenges of a Large Diameter Water Project in North Texas via CMAR Delivery Method	Jason Jansen
752628	Pipeline Shutdown and Replacement Challenges for a Critical Water Treatment Facility – San Pablo Water Treatment Plant and Clearwell Project	Rolando Bueno
744619	Pipe-Soil Interaction: Review of Design Methods in AWWA Manuals for Various Flexible Pipe	Amster Howard
744548	Rehabilitation of a 42-Inch Industrial Pressure Pipe at Paper Processing Plant	Andrew Costa
744365	Risk-Based Decision Support System for U.S. Air Force Water and Wastewater Infrastructure Asset Management	Berk Uslu
743072	Seawater Intake Considerations	Steve Friedman
743800	When Two Become One: Design and Planning Solutions for Trunk Sewer Consolidation	Jared Barber
744404	Cathodic Protection Best Practices Employed with the 150 Mile TRWD/DWU IPL Pipeline	Joe Weaver
738878	Digging Deep in San Antonio – The Planning and Design of 2 miles of 54-inch Pipe 80 feet Deep	Mark Bush
744778	Unsupervised Classification of Flow-Induced Vibration Signals to Detect Leakages in Water Distribution Pipelines	Harshit Shukla
742472	Vista Ridge Land Acquisition – A P3 Success Story and a Case Study in Schedule Compression	Christopher Noe



VIRTUAL PLATFORM PARTICIPATION LINK

A user-specific, non-transferable password-protected participation link will be sent to all registrants by Friday, August 7. Those individuals who are registering over the weekend will receive the link on Monday morning, August 10. You must use the same email address that you used to register to participate in the virtual event. All registrants who are using a work email and company-owned hardware and software please check SPAM should you not see a link in the regular inbox.

CANCELLATIONS/REFUNDS

A \$25 cancellation processing fee will be deducted from all refunds after Wednesday, August 5, 2020.

Fax cancellation requests to Attn: Customer Services at 1-866-902-5593; or email to registrations@asce.org; or mail it to ASCE/UESI Pipelines 2020, Attn. Customer Service, P.O. Box 79668, Baltimore, MD 21279-0068.

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This year, the conference proceedings will be available ONLINE only. One copy is included with each full registration. To access your copy, please follow the instructions on the Proceedings Retrieval Information Card, located in the ASCE Publications booth inside the virtual Exhibit Hall.

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PROFESSIONAL DEVELOPMENT HOURS

Professional Development Hours (PDHs) – a recognized unit of record in non-credit professional development programs – can be earned for participation in activities at this conference. If you registered for the conference and attended selected sessions, you have earned Professional Development Hours.

Please keep track of your own PDHs. A full participant in this conference may earn up to 15 PDHs by participating in the live sessions, Monday, August 10–Wednesday, August 13. Watching the recorded video-on-demand sessions or the recorded playback of the live event will not be eligible to claim.

Within thirty (30) days after the end of the event, the session information will be uploaded into the *MyLearning* system. You will receive an email from the conference registration system with a link and detailed instructions on how to access *MyLearning* and to update your session attendance. By accessing the *MyLearning* system for this conference, you automatically agree and certify you attended the selected sessions.

The system will remain open for 365 days from the receipt of the registration email to allow you time to make any adjustments and print your certificate and transcript. After that 365-day mark, you will need to contact ASCE Customer Service at registrations@asce.org or (800) 548-2723 to modify your conference attendance information.

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A confirmation will be emailed to all advance registrants for the Conference. If you do not receive confirmation within one week, please contact ASCE registration at 800-548-2723 and ask to speak with Customer Services, or email registrations@asce.org. Please reference UESI Pipelines 2020 Conference in the subject line.





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