Utility Engineering & Surveying Institute (UESI)

ASCE eLearning Webinar
March 29, 2016
UESI Overview

Randy Hill, P.E., F.ASCE
UESI President
• UESI Vision, Goals, and its Creation
• Organization Structure
• UESI Divisions, Committees, and Projects
• Activities for 2016
• UESI Chapters
• UESI Organizational Members
• How to Join UESI
“The Utility Engineering and Survey Institute (UESI) will be recognized as the premiere professional forum providing opportunities for all those interested to collaborate in advancing the technical and professional practices of utility engineering and surveying.”
UESI Goals

1. A “One-Stop-Shop” for Utility Infrastructure Systems information
2. An expanded Continuing Education and Certificate program
3. Products – Annual Conference, UESI Newsletters, Journals, MOPs, Standards and Webinars
4. A Leader to bring together other utility-related organizations eliminating industry fragmentation
5. Leader for Utility Infrastructure Report Card and educator for politicians
Why Create UESI?

- The ability to expand beyond a Division of ASCE
- Synergy with Geomatics/Surveying
- New Standards Development
- Increased Oil and Gas Pipeline Focus to ASCE
- Creation of an Institute will ensure that splinter and competing groups do not emerge
- Expand into Infrastructure Engineering and Interaction of all Utilities in all types of infrastructure corridors

✓ A home for professionals within Utilities and Surveying community
✓ Recruiting and Retaining Younger Members

UESI Ribbon Cutting Ceremony
Pipelines 2015, Baltimore, MD
UESI officially started operations on October 1, 2015 (FY 2016)

Who makes up the UESI leadership?
UESI Board of Governors, appointee(s)

*And the Executive Committees from:*
- Pipelines Division
- Surveying Division
- Utility Engineering
UESI 2016 Board of Governors

- Randy Hill (PL)
- James Anspach (UE)
- Ralph R. Carpenter (PL)
- Joe Castronovo (PL)
- David Totman (SE)
- David Garber (SE)
- Cesar A. Quiroga (UE)
- Kristina L. Swallow (UE, ASCE BOD)
- Eriks V. Ludins – ASCE BOD Rep
- John Galleher (PL)

PL – Pipelines, SE – Surveying; UE - Utilities
Pipeline Division

Ralph Carpenter, M. ASCE
UESI Board Member
ExCOM Members:

Tim Kennedy, Chair (NOV Ameron)
Victor Fernandez-Cuervo, Vice Chair (Miami-Dade)
Samuel Ariaratnam, Secretary (Arizona State U)
Tennyson Muindi, Member (McMillen Jacobs, Assoc.)
Terry Moy, Past Chair

Purpose: The advancement and correlation of scientific knowledge and engineering practice, and the promotion and coordination of socioeconomic and environmental development and construction of engineering projects relative to the transmission of liquids, gases or solids by pipelines.
Publications: Mohammad Najafi, Chair

Pipelines Infrastructure: John Jurgens, Chair

Pipelines Location & Installation Committee: Sri Rajah, Chair

Underground Pipelines Asset Management: Richard Nelson, Chair

Trenchless Installation of Pipelines: Alan Atalah, Chair

Pipeline Planning and Design: Sam Arnaout, Chair
UESI Pipelines Division Technical Committees

Technical Committees

- Have produced over 30 ASCE publications since 1997
Purpose:

To administer the solicitation, review and editing of papers in the field of interest of the Pipelines Engineering Journal, and to administer, author, and distribute the Pipelines Newsletter to all UESI members and to others with an interest in pipelines engineering.

Chair: Mohammad Najafi, Ph.D., P.E, F.ASCE
Pipelines Publications Committee

Publications

Journal of Pipelines Systems Engineering & Practice

Pipelines eNewsletter

Message from the Chair

Dear Reader,

I am pleased to announce that ASCE's Board of Direction has approved our draft proposal to become an ASCE Institute! The Board of Directors will issue a formal announcement soon.

We are excited about this new chapter in ASCE's history and are looking forward to working with all members of the Pipelines and Geotechnical Division as well as the Construction Institute's Utilities Engineering Committee.

This newsletter is focused on the latest news and developments in the field of pipelines systems engineering and practice. We hope it provides valuable information and encourages continued engagement with the ASCE community.

Thank you for your continued support and participation.

Sincerely,
[Signature]

ASCE Pipeline Division
Purpose:

To gather, correlate information on pipelines rehabilitation including methodologies regarding the evaluation of existing system integrity, rehabilitation materials and procedures and life-cycle values.

Chair: John Jurgens, Aff.M.ASCE

(john.jurgens@seattle.gov)
Purpose:

To investigate and correlate status of (1) pipeline location practices and procedures including application of survey techniques and assessment of environmental impacts; (2) pipeline installation methods including both normal and special techniques; and (3) quality assurance, proof testing, and inspection practices on constructed pipelines, and to cooperate with others organizations in gathering and disseminating this information to the profession.

Chair: K. Sri Rajah, Ph.D., P.E., F.ASCE
(rajahs@cdmsmith.com)
Purpose:

To advance and disseminate knowledge related to the management of underground pipelines assets. The Committee intends to coordinate its activities with other professional organizations such as AWWA, WEF, and BAMII, ASTM, APWA, etc..

Chair: Richard Nelson, P.E., M.ASCE
(rick.nelson@ch2m.com)
Purpose:

To disseminate knowledge related to the planning, design and installation of new trenchless pipeline projects; to coordinate ASCE's trenchless technology activities with other organizations such as the North American Society of Trenchless Technology (NASTT).

Chair: Alan Atalah, Ph.D., P.E., F.ASCE (atalah12@hotmail.com)
Purpose:

To disseminate knowledge related to the planning, design and installation of new pipeline projects; to coordinate ASCE's pipeline design and planning, and current technology associated with open-cut pipeline installation.

Chair: Sam Arnaout, P.E., M.ASCE
(sam.Arnaout@forterrabp.com)
Pipelines Division Task Committees

- Rehabilitation of Storm Sewers and Culverts
- Buried Flexible (Steel) Pipe Load Stability Criteria & Design
- Thrust Restraint Design for Buried Pipelines
- Hydraulic Analysis of Transmission Systems
- Pressure Pipeline Design for Water & Wastewater
- TC in Pipeline Route Selection in Rural and Urban Areas
- Pipelines Installation, Inspection & Acceptance
- Pilot Tube Micro-tunneling
- Condition Assessment of Sewer Collection
- Water Pipelines Condition Assessment
UESI Current Projects

- MOP – Update Pressure Pipeline Design for Water & Wastewater
- MOP – Hydraulic Transient Analysis of Transmission Systems
- MOP – Pilot Tube Micro-tunneling
- MOP – Design of Liners for Gravity Pipes
- MOP – Water Pipe Condition Assessment
- MOP – Thrust Restraint Design of Buried Pipelines
- MOP – Sustainability Design of Pipelines
- MOP - Pipe Bursting Projects
- MOP - Pipe Ramming Projects
- MOP - Rehabilitation of Sanitary Sewer Laterals
- MOP - Renewal of Potable Water Pipelines
- Pipelines Journal
- Annual Pipelines Conference Proceedings
The conference will continue to provide a forum for pipeline pioneers and practitioners from all around the world to share their experiences in meeting the challenges of today’s pipeline infrastructure. This premier industry event has become the conference of choice for utility and pipeline owners, design and consulting engineers, contractors, manufacturers, suppliers, students, educators, researchers, and pipeline professionals. The conference will also include surveying as it relates to pipelines and utility projects.

You can find more information on the conference at: pipelinesconference.org
Surveying & Geomatics Division

David Totman
UESI Board Member
Surveying & Geomatics Division

ExCOM Members:
- David Garber, Chair (Garber-Chilton)
- David Totman, Vice Chair (Esri)
- Earl Burkholder (Global COGO, Inc.)
- Gene Roe (LiDAR News)
- Ron Singh (ODOT)

Purpose:
To provide leadership within the engineering profession, for the acquisition and management of spatial data requirements as part of scientific, administrative, legal, and technical operations for surveying, cartography, photogrammetry, multi purposes cadaster, remote sensing, and geographic information systems to foster the development of policy, guidelines and specifications; to encourage the advancement of geomatics education, and to foster the dissemination of information.
Publications: Michael Olsen
Education: Francelina Neto
Liaison: Earl Burkholder
Spatial Data Accuracy: Michael Dennis
Spatial Data Applications: David Totman
Engineering Survey Practice: Dan Gillins

* Task Committee on the Update of the Engineering Surveying Manual
Purpose:

To stimulate, initiate, and develop papers and discussions, to assist the Journal Editor and the Newsletter Editor; to act for the Surveying & Geomatics Division in making nominations for the ASCE award for outstanding papers.

Chair: Michael Olsen, Ph.D., AM.ASCE
Purpose:

To coordinate activities involving the education and professional development of professionals in civil engineering involved with Geomatics/Surveying

Chair: Francelina Neto, R.L.S., M.ASCE
Purpose:

To coordinate activities among committees within ASCE and organizations outside ASCE regarding issues involving traditional surveying and geomatics in civil engineering.

Chair: Earl Burkholder, P.S., P.E., F.ASCE
Purpose:

Charged with reviewing spatial data accuracy standards for surveying engineering applications in the light of new technology and computational models.

Chair: Michael Dennis, P.E., L.S., M.ASCE
Purpose:

Provide resources to improve the understanding by engineers (current and future) regarding advancements in geomatics to apply spatial data to improve efficiency in civil engineering design and construction.

Chair: David Totman, AM.ASCE
Purpose:

To coordinate the gathering and sharing of professional experience from practicing land surveyors and surveying engineers.

Chair: Daniel Gillins, P.L.S., M.ASCE
Purpose:

To update the existing Engineering Surveying Manual (#64) that was last published in 1985.

Chair: Daniel Gillins, P.L.S., M.ASCE
Surveying & Geomatics Division

Current Projects

- Journal on Surveying Engineering

Long-Term

- International Surveying Conference (2018)
- Development of a Surveying Research Council
Utility Risk Management Division

James Anspach, P.G., (ret), F.ASCE
UESI Board Member
ExCom Members

- Jim Anspach, P.G., F.ASCE, Chair (Cardno)
- Tom Iseley, Ph.D., P.E., Dist.M.ASCE, (Louisiana Tech)
- Cesar Quiroga, Ph.D., P.E., M.ASCE (Texas A&M Transportation Institute)
- John Campbell, P.E., M.ASCE (TXDOT)
- Drew Markewicz, P.E., M.ASCE (RBA Group)

Purpose: The Utility Risk Management Division promotes utility engineering as a fundamental technical discipline within civil engineering by exploring, developing, and communicating strategies to improve practices regarding the interactions of all utilities with surrounding infrastructure and environment during project development and delivery. The Division provides leadership for research and development related to utility investigations, coordination, design, and data management and security.
Utility Risk Management Division
Technical Committees

- Utility Investigations
- Utility Coordination
- Data Management and Security
- Aerial and Underground Cable and Conduit Infrastructure
- Education
- Utility Risk Research Council
Purpose:

To identify all tasks, knowledge, judgement, techniques, and equipment necessary to conduct effective utility investigations, including data collection, analysis, depiction, reporting, and recommendations for risk management. It expands upon the collection and depiction aspects of subsurface utility engineering as described in ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data.

Chair: Phil Meis, P.E., M.ASCE
Purpose:

To identify, facilitate, and promote effective solutions regarding the accommodation of existing and proposed utilities during project development and delivery, including consideration of project objectives and design requirements, utility system constraints, and other stakeholder needs.
Purpose:

To develop and promote protocols and practices for utility data management and data exchange, which facilitate project efficiencies, enhance public and facility safety including emergency response, and lower life-cycle costs, in the context of assuring data is secure from unauthorized use.

Chair: Sunil Sinha, Ph.D., AM.ASCE
Purpose:

To explore, develop, and disseminate knowledge related to planning, design, and constructability of cable and conduit systems and affected project features.
Purpose:

To provide educational opportunities that enhance career development and continuing professional development of persons involved in the Utility Engineering and Surveying Institute. It researches, develops, coordinates, and delivers education and training regarding all aspects of utility risk management, including webinars, workshops, specialty conferences, and certification programs. The Education Committee serves as a point of contact with ASCE’s Continuing Education Department.
Purpose:

To promote, identify, and disseminate research needs and findings for all civil engineering aspects of utility risk management. The committee coordinates with other entities performing utility research, identifies sources of funding, and develops implementation strategies.
Consensus Definition of Utility Engineering

Policy Statement for ASCE Board on Utility Engineering

Committee Report Documents
  - Utility Infrastructure Mapping Prequalification Guidance
  - Utility Infrastructure Mapping Scope of Work Template
  - Utility Engineering (SUE) RFP Guidance

Significant Update to ASCE 38

Publication of Utility As-Built Standard
Utility Risk Management
Intermediate Term

- Training Programs / Content /Certificate Program for:
  - ASCE 38 professionals sealing work
  - National Utility Coordination Issues (States to augment with state-specific issues)
  - Geophysics for SUE practitioners

- Training Manual of Practice for Populating Utility Risk Envelopes

- Manual of Practice for Effective Utility Investigations

- Policy Statement on When Utility Installation Projects should Require Civil Engineering Services

**Long-Term**

- Cyber-Security for utility data
Standards Division

James Anspach, P.G., (ret), F.ASCE
UESI Board Member
Standards Division

The Standards Division will coordinate activities of UESI related to the development, revision or discontinuance of standards in the areas of surveying, geomatics and utility engineering and ensure compliance with the ASCE Rules for Standards Committees. The leadership of the Division will be responsible for identifying new topics for standards development and growing the overall UESI standards program.

Chair: Dr. K. Sri Rajah
EXISTING STANDARDS

- ASCE 15, Standard Practice for Direct Design of Buried Precast Concrete Pipe Using Standard Installations (SIDD).
- ASCE 26, Direct Design of Buried Precast Concrete Box Sections. Revision started in 2006.
- ASCE 27, Standard Practice for Direct Design of Precast Concrete Pipe for Jacking in Trenchless Construction.
- ASCE 28, Standard Practice for Direct Design of Precast Concrete Box Sections for Jacking in Trenchless Construction.
- ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data
- ASCE XX, Collection, Administration, And Exchange Of Utility Infrastructure Data Standard
PROPOSED STANDARDS

- Water Pipeline Thrust Restraint
- Seismic Design Considerations for Water Systems (joint effort with IRD)
- Standard Practice for the Use of Distributed Fiber Optic Temperature Sensing for Locating Illicit Connections on Sewers.
- Standard Practice for the Use of Optical Fiber Distributed Temperature Sensing to Detect Leaks in Above-Ground Ammonia, Ethylene and LNG Pipelines.
- Standard Practice for the Use of Optical Fiber Bragg Grating for Civil Engineering System Monitoring Spatial and Measured Resolution and Accuracy Definitions in Distributed Fiber-Optic Temperature and Strain Sensing Data.
UESI Future Divisions and Membership Information

Randy Hill, P.E., F.ASCE
UESI President
Construction Management Division (Future Division)

The Construction Management Division will develop surveying and engineering best practices that employ established installation, inspection, project management, and construction management that contribute to an efficient constructed project that will meet the requirements for long-term sustainability requirements for our utility infrastructure. Care will be taken to coordinate fully with the Construction Institute.
The Asset Management Division will provide leadership for infrastructure systems owners and stakeholders and enhance the efficiency of operations and maintenance through asset management of infrastructure systems with a focus on collaboration of effective tools, practices, processes and policies.
1. Grow the Institute – we need members!

2. Organize the Divisions and Division Sub-Committees

3. Pipelines 2016 Conference – Kansas City, MO
   ➢ The UESI - Pipelines Conference will include sessions on oil & gas, and utilities and surveying issues.

4. Develop Pipelines Manuals of Practice
   ➢ Currently over 7 MOPs are under development

5. Develop an Engineering Surveying MOP

6. Create Institute Chapters
Who Should Join?

ALL OF YOU!

Water and Waste Water Pipeline Engineers, Technicians, and Suppliers
Oil & Gas Pipeline Engineers
Electrical and Communications System Designers
Subsurface Utility Engineers

CAD Technicians
Utility Coordinators
Surveyors
Party Chiefs
Field Technicians
Utility Asset Managers

AND MORE!
CURRENT MEMBER OF ASCE
- Go to www.asce.org/renewal - Primary Institute - free; Secondary - $30

NEW MEMBER OF ASCE
- Go to www.asce.org/join - Choose UESI as free Institute

UESI-MEMBER ONLY
- Go to www.asce.org/uesi - Select “Join UESI Member-Only Online”

STUDENT MEMBER
- Go to www.asce.org/uesi - Select “Join UESI student member

ORGANIZATIONAL MEMBER
- Go to www.asce.org/uesi - Select “Organizational Member”
UESI Organizational Membership Primary Benefits

- Organization profile (name/logo, description, weblink) listed on the UESI Organization Member page.
- Use of UESI Organization Member logo to promote your affiliation with UESI.
- Exclusive preference for conference exhibit space at UESI event.
- Opportunity for “UESI Charter Organization Member”.
- Ten (10) Exhibit Hall Passes at the next Pipelines Conference in Kansas City.
Current “Charter” Organizational Members

- Cardno
- mc2 civil, Incorporated
- Pure Technologies
- American Ductile Iron Pipe
Current Chapters

- Broward Branch Chapter, FL
- Miami-Dade Branch Chapter, FL
- Orange County Branch Chapter, CA

Under Discussion

- Illinois Section
- Las Vegas Branch
- Hawaii Section
- Montana Section
- Minnesota Section
- San Diego Chapter
- Middle – East Chapter (Beirut)
Go to www.asce.org/uesi

To Join a Technical Committee:

Go to the “Join a UESI Committee” link on the UESI website

Interested in other aspects of Utility Engineering? If so, please contact the UESI staff for …

- Training needs
- Technical Reports
- Expert Advise and Support
Questions?