

## THE ASCE PITTSBURGH SECTION GEO-INSTITUTE CHAPTER PRESENTS

### *October 2017 Dinner Meeting*

## **Performing Geohazard Assessments and Pipeline Monitoring Methods**

**Presented By:** Martin P. Derby, P.G., CPG, *Golder Associates*

Geohazards have the potential to adversely impact infrastructure in the Appalachian region, including pipelines. Unstable slopes, seismic, subsidence, and hydrotechnical (water erosion) hazards are just a few types of geohazards that will be discussed in detail. Performing geohazard assessments along pipeline corridors assists owners and operators in determining if a natural hazard may impact their assets. A phased approach can be used to identify, characterize, and ultimately mitigate/monitor potential geohazards. The phased approach begins with a regional-scale desktop assessment (Phase I) to identify, initially characterize, and qualitatively classify (e.g., low, moderate, high hazards) geohazards. Following the desktop assessment, a non-intrusive ground reconnaissance (Phase II) can be completed at targeted sites that warrant additional assessment. Following the ground reconnaissance, subsurface investigations (Phase III) such as drilling, test pitting, or geophysical surveys can be carried out at specific sites of concern to further characterize hazards. The Phase III program includes the collection of sufficient data to plan for and design site specific mitigation and/or monitoring, if deemed necessary. In-situ pipeline monitoring (e.g., strain gages) and slope monitoring (e.g., inclinometers, tilt meters, etc.) methods will be discussed, as well as other advanced monitoring methods, such as InSAR (satellite), LiDAR (airborne), ground based InSAR and fiber optics.



Mr. Derby is currently a senior geohazard practice leader with Golder Associates and has over 33 years of experience in performing detailed subsurface exploration, monitoring/pipeline subsidence programs, geotechnical design for soil stabilization, and environmental remediation/construction oversight. Mr. Derby is the chair of the Association of Geohazard Professionals – Geohazard Monitoring and Instrumentation section, former vice chair of the Surveillance, Operations and Monitoring section of the Pipeline Research Council International (PRCI), and former chair of the ASCE – Energy and Environment Nexus Committee. Martin received his associate's degree in Civil Engineering Technology from Hudson Valley Community College, his bachelor's degree in Geological Sciences from the University of Buffalo, and his master's degree in Geoscience from Montclair State University. Martin is currently a PhD candidate in the Geohazards program at the University at Buffalo. His research focuses on subsidence and slope/landslide monitoring with advanced remote sensing methods including InSAR and ground based InSAR.

Date: **THURSDAY,  
OCTOBER 19, 2017**

Place: Cefalos  
428 Washington Ave  
Carnegie, PA 15106

Time: 6:00 PM Social Hour  
7:00 PM Dinner  
8:00 PM Presentation

**Reservations received on or before 10/9/17:**

\$20 ASCE Pittsburgh Section Members / Government Employee  
\$30 Non-members  
➤ *Free to Students*

**Reservations received between 10/10/17 - 10/16/17:**

\$30 ASCE Pittsburgh Section Members / Government Employee  
\$40 Non-members  
➤ *\$10 Students*

**PLEASE RSVP** by contacting Mr. Vishal Patel @ [ypatel@agesinc.com](mailto:ypatel@agesinc.com) or by registering online at <http://www.asce-pgh.org/>. **Online registration is highly encouraged and payments can be made with credit card.** Only cash or checks will be accepted at the door.