



## GEO-INSTITUTE 7th ANNUAL LIVE STREAMING WEB CONFERENCE

The Geo-Institute Embankments, Dams, and Slopes Technical Committee will live-stream the session “Embankments, Dams, and Slopes Case Histories” on Monday, December 5, at 2 PM EST. The topics include:

“Offshore Slope Stability: Geotechnical Aspects,” **Navid H. Jafari**, Ph.D., M. ASCE

This presentation will discuss the challenges in assessing offshore slope stability for oil and gas operations as well as wind generators. Navid will also discuss the reconnaissance, drilling, sampling, and testing of offshore soils to develop shear strength parameters to assess offshore slope stability.

“Small Dams and Extreme Events,” **Jay McKelvey**, PE., F.ASCE

The average age of the dams is over 50 years, and therefore it is not surprising to find that the 2017 ASCE Infrastructure Report gave dams in America a grade of D. Many small dam owners do not fully understand the importance of periodic maintenance and inspections to extend their life and minimize risk to downstream areas. Furthermore, limited funds may burden the ability to properly maintain a small dam. This paper will identify maintenance issues for small dams that could lead to hazardous conditions in both steady state and extreme events. Recommendations will be provided for the development of guidance documents to assist small dam owners in determining how to make corrective actions on a limited budget.

“Simulation of large deformations and soil-water-structure interactions with the Material Point Method,”  
**Alba Yerro Colom**, Ph.D., M. ASCE

This presentation will discuss the development of solution schemes capable of predicting the deformation process from failure initiation to post-failure dynamics in multi-phase environments to predict the triggering and runout of landslides, slope instabilities, river levees, and tailings dam failures. In this lecture, the Material Point Method is presented by means of different case studies as an emerging numerical technique capable of modeling the whole instability process in dry, saturated, and unsaturated porous media as well as soil-water-structure interaction problems.

“3D Analysis of Forest City Landslide and Possible Remedial Measures,” **Lucia Moya**, S.M.ASCE and  
**Timothy D. Stark**, Ph.D., PE., M. ASCE

This presentation will describe a 3D slope stability analysis to investigate the range of mobilized drained residual friction angle for Pierre Shale involved in the Forest City Landslide, which is in agreement with available correlations. The mobilized residual friction angle ranges from 5 to 9 degrees for the sheared Pierre Shale. The Forest City Landslide is located near Forest City, South Dakota and is impacting the Highway 212 Bridge across Oahe Reservoir. The results of the 3D inverse analysis are used to study several remedial measures in an effort to stabilize the landslide near the bridge. Lucia Moya will also illustrate how to set up a 3D slope stability analysis and use it to evaluate potential remedial measures including drilled shaft shear key and shear walls.