

A Pasco County Company has developed improved techniques to image and monitor sinkholes. David Harro, principal geophysicist at The G3 Group, will be giving a presentation about this new technology this month at the TEDxTampaRiverwalk.

The G3 Group, located in Odessa, FL, has developed an improved geophysical technique called the Multi-Electrode Resistivity Implant Technique (MERIT). This patent-pending technique can image the subsurface deeper with higher resolution than the current methods used to detect sinkholes.

The geophysical methods like ground penetrating radar (GPR) and electrical resistivity (ER), which are used now to detect sinkhole activity, are typically limited to the upper 25 feet. However, the location where sinkhole development occurs is at the interface of soil and rock. In Florida, the rock, limestone, dissolves and then soil moves downward to create a sinkhole. Pasco, Hillsborough and Hernando counties have been referred to as "Sinkhole Alley" because the limestone in these areas frequently dissolves, creating sinkholes. In Pasco and Hillsborough Counties, the limestone is typically 30 to 50 feet deep. In Hernando, it can be up to 100 feet or more. It is important to be able to image where the soil may be moving into the limestone so that a sinkhole can be identified and a stabilization repair can be done cost effectively and with more confidence.

The G3 Group uses a cost efficient drilling method called direct push technology to install implants deep into the subsurface that can image into the limestone to help identify sinkholes. MERIT was developed with the help of Dr. Sara Kruse from the University of South Florida, and geophysical experts around the world who have contributed to the development of this improved technique.

In addition to the imaging capabilities, G3 Group has been working on combining MERIT with other geophysical techniques, including Time Domain Reflectometry (TDR), which has been in use since the 1990s to monitor landslides and ground subsidence. When the TDR technique is combined with MERIT, geophysicists have the ability to not only image sinkholes, but also to perform cost effective, long term monitoring of the sinkhole or the ground stabilization of a sinkhole. These combined techniques can help provide better safety and more assurance to those who have been impacted by sinkholes.

The presentation will be held on Saturday, August 30 from 1 to 6 p.m., at John F. Germany Library Auditorium, 900 N. Ashley Drive, Tampa, Florida 33602.

All are invited to attend the presentation and learn how their business can benefit from using this technique.

Further information about the event can be found online at:

<http://tedxtampariverwalk.com/2014/07/21/introducing-our-2014-tedxtampariverwalk-presenters/>

For more information about this new technology, call David Harro at 727.376.7833.