

## **Trenchless Technology Workshop**

To deal with the increasing number of water and wastewater networks problems, in crowded cities and towns and urbanized areas, a new group of construction methods, known as trenchless technologies, were developed. Trenchless technologies include methods used for the construction, condition assessment and the renovation of underground utility systems with minimal surface excavation, disruption and destruction. These methods have gained widespread acceptance and usage across the globe.

The objectives of this one-day workshop are two fold. The first is to introduce trenchless technology methods and their importance for public works pipeline construction, condition assessment, and renovation. The second is to show how these methods can be used to as part of a buried infrastructure asset management plan.

By the end of this workshop participants will have an understanding of:

- trenchless methods for the construction, assessment and renovation of small (non-person entry) and large diameter gravity and pressurized pipelines.
- each trenchless method advantages and limitations.
- requirements to make a successful trenchless project.
- buried infrastructure asset management.

This course will be of interest to municipal engineers, consultants, technicians, inspectors and contractors involved in the design, construction and inspection of buried infrastructure construction and renewal projects.

### **Course Instructors**

#### **Mark Knight PhD, P. Eng.**

Dr. Knight is a faculty member in the Civil Engineering Department at the University of Waterloo, Waterloo, ON where he teaches graduate and undergraduate courses in the area of trenchless technology and geotechnical engineering. In addition to his teaching responsibilities Dr. Knight has developed an extensive research program focused on construction of new pipelines using directional drilling, the assessment of pipeline networks, and pipeline renovation material performance and characterization.

Dr. Knight chaired and organized the 2001 Underground Infrastructure Research Conference that was held in Kitchener Ontario, Canada. He is also a founding member of the Trenchless International Engineering Research Advisory Committee (TIERAC). Mark has developed and conducted over 100 trenchless technology seminars, presentations, workshops and short courses that have been presented across North America, in Europe, United Kingdom, Australia, and Malaysia. In 2002, Mark was invited by the National Science Foundation of the United States to Europe as part of a trenchless technology delegation. In 2003 was one of only two North American researchers invited to Germany to participate in a workshop on sewer and inspection and rehabilitation. Mark is currently is on the Board of Directors for the North American Society of Trenchless Technology (NASTT) and the Buried Asset Management Institute International. Since 2003 he has also been a member of the NASTT No-Dig conference program committee.

#### **Dec Downey, PhD**

Dr. Dec Downey, a Principal of Jason Consultants, was elected Vice Chairman of the International Society of Trenchless Technology (ISTT) at the ISTT Board meeting held in Rotterdam on September 18, 2005. In September 2007 he will become the ISTT Chairman. Dr. Downey was the UK Society of Trenchless Technology (UKSTT) Chairman from 1999 to 2001 and has served as a member of ISTT's executive committee since 2000.

Dr. Downey is a Chartered Engineer and Chartered Water and Environmental Manager, and has a PhD in Materials Science. He has spent almost 30 years working with pipes in manufacturing, rehabilitation, technology transfer and contracting before becoming a consultant in 2002. He has chaired the CIWEM Pipelines Panel and is currently a member of the Pipeline Industries Guild Utilities Panel. In 1992 he was awarded the Kurose Prize by the Japan Microtunneling Association. Dec is an instructor on Pipe and Pipeline Renewal in the ASCE Continuing Education Programme

Over the past 30 years Dr. Downey has gained extensive experience in the use and application of trenchless construction methods in Europe, Asia and India where he is currently involved in the JBIC funded YAPII program.