



E2STM001T

(NON Token-required)

# STEM Talk (Level II): Seeing and Unseen Underground Utilities in 3D

Ir Dr Wallace Wai Lok LAI

Associate Head (Teaching) and Associate Professor, The Department of Land Surveying and Geo-Informatics (LSGI), The Hong Kong Polytechnic University (PolyU)



## **Intended Learning Outcomes**

Upon completion of the programme, participants should be able to:

1. explain how underground utilities are important to our city;
2. describe the technologies for monitoring underground utilities;
3. develop an open and creative mindset to make new ideas for maintenance of utilities in our city.

**Application Deadline**

**6 Jun 2022**

**12:00 noon**



## ◆ Introduction

When we look up, our lives are occupied by clear sky, infrastructures, buildings, countryside, etc. But when we look down, we walk across many black covers every day without much notice. The underground world, a hot topic in many movies, is truly a mystery to most people. But these invisible vessels since Rome's time, are our city's vessels that supply us with clean water, electricity, gas, telecommunication, helping our cities not flooded during heavy rainstorm, conveying our toilet water to treatment. Their invisible existence is vital though their stories are untold. In this seminar and visit, LSGI of PolyU will unfold some mysteries by geo-spatial and geophysical technologies, including laser scanning, electromagnetics, ground penetrating radar, acoustic and infrared thermography.

In this programme, there will be a 1-hour talk, followed by a 1.5-hour laboratory tour.

The speaker, Ir Dr Wallace Wai Lok LAI, has worked on research in imaging the unseen components in engineering structures and underground world via non-destructive evaluation, near-surface geophysical technologies and advanced signal processing. He has taught design, construction, and maintenance of underground utilities university courses.

## ◆ Schedule

Session	Date	Time	Venue
1	25 Aug 31 Aug	9:30 a.m. – 12:00 noon (9:15 – 9:30 a.m. for registration) 2:30 p.m. – 5:00 p.m. (2:15 – 2:30 p.m. for registration)	Room Z206, 2/F, Block Z, The Hong Kong Polytechnic University ( <a href="#">MAP</a> )

## ◆ Target Participants

- S2 to S6 HKAGE student members only in 2021/22 school year
  - Class size: 30
- \* First-come, first-served

## ◆ Pre-requisite

No special prerequisites are needed

## ◆ Medium of Instruction

English