

# Engineering Geology (8)

- Geological Site Investigation: for 3D understanding of unforeseen ground conditions
- Cost: Nuclear power station >> dam > road > small building

- Workflow for SI:
- (1) initial stage: desk study (i.e. review of pre-existing data, remote sensing images), site visit, reporting (initial)
- (2) main stage: field work, laboratory work, reporting (final)
- (3) review stage: during construction

- Use of photos & images:
- (1) airphotos: BW, Color, In-visible
- (2) RS(Remote Sensing) images: multi-spectral, hyper-spectral imaging (e.g.)  
LANDSAT

- Direct observation
  - (1) trial pits
  - (2) trenches
  - (3) Light percussion drilling
  - (4) Rotary boring
  - (5) Rotary coring

- SI vs Cost
- (1) How many direct observations?
- (2) Do we need samples or just values or both?
- (3) Original plan? Addition available fund?

- Indirect observation
- Geophysical survey: magnetic, electrical, GPR, seismic, gravity, electromagnetic