

**Malaysian Geotechnical Society** 

Organised by Youth Wing of MGS (YMGS)

Webinar

# **Infrastructure Instability and Ground Movement Monitoring with Satellite InSAR**

by Mr. Alastair Belson

29 August 2023 (Tuesday) 5.00 pm—7.00 pm, via Zoom BEM CPD: ApplyingPEB PDU: ApplyingClick here to register

## **Synopsis**

Satellite radar imagery has been acquiring over Malaysia for many years. By processing such imagery with an advanced 'Interferometric Synthetic Aperture Radar' (InSAR) processing chain, it is possible to map current and past ground displacements to millimetre accuracy. In a typical InSAR analysis, millions of measurement points can be typically detected, each of which has an accompanying time-series of recent ground movement behaviour, indicating areas of stability, instability, displacement magnitude, velocity and acceleration. Such maps, updated on a regular basis, provide a wide-area and detailed understanding of slope instabilities and long-term ground settlement / movement. InSAR offers an accurate, cost-effective and repeatable mapping solution for slope and ground instability mapping, as well as long-term monitoring of infrastructure. Furthermore, the technique is complementary with in-situ observations and is completely remote, meaning no need for ground instrumentation or equipment maintenance.



#### Speaker

Alastair Belson is the South East Asia Area Business Manager of TRE Altamira (Italy) and is the Director of Global Remote Sensing. He holds a Bachelor's degree in Geophysics (BSc) and a Master's (MRES) degree in Volcanology and Atmospheric Sciences. He is a remote sensing specialist with experience ranging from geophysical surveying & satellite data analysis to innovative project design, reporting and international business development. He has 17 years of professional experience in the fields of geophysical ground surveying and satellite monitoring, including Interferometric Synthetic Aperture Radar (InSAR) for ground and infrastructure instability monitoring and additional satellite monitoring solution for environmental applications.

Registration Fee

MGS / IEM / GeoSS / CTGS Members: Free Non members: RM20.00 per person

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