The Chinese University of Hong Kong
Earth System Science Programme

Career Lecture

An International Perspective on Developing Specialist Careers in Engineering Geology

by Mr Bob SAS

Time: 3:10pm, April 9, 2014 (Wed.)
Venue: C2, Lady Shaw Building

Abstract Engineering geology is an academic discipline and a growing profession involving various market sectors including energy and environmental resources, mining, renewables, geohazards and public safety. Developing a career in this field requires technical skill, excellent communication, professional adaptability, and personal flexibility to meet the societal demands for civil engineering and infrastructure. In today's complex, global society this can seem like a daunting task, however, engineering geology is a discipline and profession only bounded by Earth's surface, with incredible opportunities worldwide; we are trained to work anywhere in the world and have a skillset to meet the future challenges on the frontiers of extra-terrestrial resource exploration. This talk will present the "down-to-Earth" challenges and triumphs of an early-career American geologist gaining life and career experience throughout the world. Whether you intend to develop a career in Hong Kong or abroad, the goal of this talk is to provide some perspectives on career planning and development for students in geology, earth science, geography, environment, and related courses. Specific project examples from Hong Kong will be emphasized.

Speaker Bob Sas is an engineering geomorphologist specialising in geological and terrain mapping for landslide hazard assessment, and has a great interest in LiDAR-based terrain modeling to solve geological and geotechnical problems. He began his career working for the US Geological Survey on a variety of landslide hazard studies and was the first GeoCorps/ Geological Society of America participant to study rock fall hazards in Yosemite National Park where he developed magnitude-frequency assessments from airborne LiDAR using 3D GIS models. He also worked as a Litigative Consultant to the US Department of Justice and for San Francisco State University as a land surveyor measuring displacement of surface fault rupture along the San Andreas Fault. Although his passion is enhancing public safety by reducing geo-risk, he also works on engineering projects for oil and gas clients throughout Asia.

Since moving to Hong Kong in 2010, he has been involved in more than 40 Natural Terrain Hazard Studies (NTHS) for Government and private clients and was a member of the review team evaluating core technical approaches to NTHS. Bob has pioneered innovative applications of the 2010 HKSAR-wide airborne LiDAR dataset for semi-automated approaches to geomorphological mapping, terrain classification, and detection of anthropogenic ground features. As Senior Geologist, he leads Fugro's in-house technical development on LiDAR applications. Bob has a growing passion for archaeology and has uncovered a number of artefacts on "natural" terrain hillsides currently under study by the Antiquities and Monuments Office.

Bob is a Chartered Geologist and served as a Committee Member of the Geological Society of London, Hong Kong Regional Group (GSL-HKRG) for the last 2 years. He is currently a member of the Working Group on Natural Terrain Hazard Management with the Association of Geotechnical Specialists (AGS-HK).