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Engineering geology and geomorphology in the design, operation and rehabilitation of quarries - forms and processes, models and cycles, roles and responsibilities

Speaker: Ruth Allington, GWP Consultants LLP

Venue: City University of Hong Kong (Building: Academic 2, Room: LT-2614), Tat Chee Avenue, Kowloon, Hong Kong
Map: <http://www6.cityu.edu.hk/wayfinder/en/Building/AC2/>

Date/Time: 29th January 2013 (Tuesday) 6:00pm for 6:30pm

Synopsis: This lecture will highlight the applications of geology and geomorphology in the responsible extraction of the construction materials upon which civil engineering projects depend. There is consensus that reliable ground models, based on a sound understanding of the geology, are vital for successful civil engineering projects. They are equally vital in quarrying and mining, and the approaches to site characterisation so clearly set out in previous Glossop lectures are equally relevant to ground professionals working with quarries. The lecture will highlight three important differences impacting on professional practice in this area. First, the lifecycle of a quarry from initial excavation to closure and final rehabilitation is considerably longer than the construction and commissioning phases of most civil engineering projects; there are distinctive models, process and work cycles, and roles and responsibilities relevant at each stage in the quarry lifecycle. Second, the inevitable outcome of surface mineral extraction is to make significant permanent and temporary changes to ground conditions in and around a site during a quarry's life, often requiring many distinct (transient and dynamic) ground models to characterise the forms and processes (man induced and natural) and their evolution through the lifecycle. Third, in addition to understanding the ground conditions throughout the quarry lifecycle, some other issues must be thoroughly understood and taken into account in the planning and management of a quarry: the quality and quantity of recoverable material; the suitability of the recovered and processed material for its intended use; the viability of recovering and processing it; and the impacts on the natural environment and people.

About the Speaker: Ruth Allington is Joint Senior Partner of GWP Consultants LLP, the firm she joined in 1981 immediately after graduating (then the Geoffrey Walton Practice). She has a joint honours BSc from King's College London in geology and geography and an MSc in engineering geology from Durham University. In the mid 1990s she completed an MBA through the Open University, and she is a qualified commercial mediator.

Throughout her professional career, Ruth has applied her engineering geology and geomorphology to mineral resource evaluation, geological modelling, and the detailed design and scheduling of quarries, landfills and open pit mines for construction materials, industrial minerals and solid fuel minerals. This includes the design of pit geometries as well as optimising economics, safety and environmental impact issues.

Alongside mainstream technical consulting, Ruth is very experienced in training for specialists and non-specialists in and affected by the quarrying and related industries. A developing skill and passion is as a communicator of scientific and engineering concepts to members of the public and non-specialist legislators and regulators in connection with some significant engineering and infrastructure projects as well as mineral projects. She travels widely in Europe and further afield (most recently to Hong Kong and UAE) and is excited by the challenges of delivering successful solutions to clients in different cultural, climatic and environmental settings.

Very early in her career (the first month) she was introduced to the Engineering Group *via* the Regional Conference held that year in Birmingham. Responding to the warmth of the welcome by established members of the Engineering Group, she soon became a committee member and later Secretary and served as Chair between 1998 and 2000. She later served on the Council of the Geological Society as Vice President (with particular responsibility for Regional Groups) and as Professional Secretary. She is the current President of the European Federation of Geologists. Ruth is a member of the Pan European Reserves and Resources Reporting Committee (PERC) as an EFG representative. She is committed to promoting the highest professional and technical standards amongst geologists and others involved in the application of geoscience, particularly through the promotion of professional titles such as CGeol and EurGeol. She is passionate about promoting 'joined up thinking' and encouraging collaborative approaches to problem definition and problem solving based on effective communication and co-operation in the margins between disciplines as well as between technical specialists and the public.

Note: All are welcome to attend, booking is not required. However, please note that the event is likely to be popular and space is limited so admission will be on a first come, first served basis. **The event is free to those producing their Geological Society Fellowship Card and to students with a student card, otherwise a fee of \$20 will be charged.** Fellows can print a copy of their Fellowship card by logging in at <https://www.geolsoc.org.uk/gsl/login>, clicking on the 'Fellows Area' tab and then clicking on 'View Fellow Card'.

CPD certificates will be available