



The Hans Cloos Lecture

The Contribution of Urban Geology to the Development, Regeneration and Conservation of Cities

Presented by Professor Martin Culshaw

School of Civil Engineering, University of Birmingham and the British Geological Survey

Venue: Lecture Theatre, HKIE Headquarters, 9/F Island Beverly, No. 1 Great George Street, Causeway Bay, Hong Kong

Time: Tuesday 14 September 2010, 6.30pm

The Hans Cloos Medal:

The Hans Cloos Medal is the senior award presented by International Association of Engineering Geology and the Environment (IAEG), given to an engineering geologist of outstanding merit in commemoration of the “founder of geomechanics”. The recipient is a person of international repute who has made a major contribution to engineering geology in his/her written papers or to the development of engineering geology and/or the IAEG in their own area. This year it was awarded to Professor Culshaw at the IAEG Conference in New Zealand.

Synopsis:

It can be argued that urban geology has existed as a geological sub-discipline since the late 18th century, when King Louis XVI set up a service to investigate gypsum mine collapses in Paris. In modern times, the subject was developed, particularly in California in relation to land-use planning, and led to Robert Legget publishing his seminal book “Cities and geology” in 1973. Since then, there have been considerable advances, particularly in eastern Asia, North America and Europe and urban geology has become an important part of engineering geology. This research and practice has seen the evolution from single theme spatial datasets to multi-theme and multi-dimensional outputs for a wide range of users, increasingly including non-geo-professionals and the general public. These advances are reviewed at length and an extensive reference list has been provided.

In parallel to the development of these new outputs to aid urban development, regeneration and conservation, has been the growing recognition that city authorities need access to extensive databases of geo-information that are maintained in the long-term and renewed regularly. These databases are best developed and managed by national/regional geological surveys. However, this realisation comes at a time when the future role of geological surveys in relation to geo-information is coming into question in some of the more developed countries whose surveys have existed for a long time.

A further key advance, in the last decade, has been the recognition that, in the urban environment, knowledge and understanding of the geology need to be integrated with those of other environmental topics (for example, biodiversity) and, increasingly, with the research of social scientists, economists and others. These developments have led to a new definition of urban geology as the study of the interaction of human and natural processes with the

geological environment in urbanised areas, the resulting impacts and the provision of the necessary geo-information to enable sustainable development, regeneration and conservation.

Despite these advances, it is suggested that the value of urban geology is not fully recognised by those charged with the management and improvement of the world's cities. This may be because engineering geologists have failed to adequately demonstrate the benefits of urban geological applications in terms of cost and environmental improvement, have not communicated these benefits well enough with policy-makers and politicians and have not clearly demonstrated the long-term contribution of geo-information to urban sustainability. Within this context future actions to improve the situation are proposed.

About the Speaker:

Martin Culshaw is an independent researcher and consultant. Till April 2008 he was Director of Environment and Hazards at the British Geological Survey (BGS) and the Survey's Chief Engineering Geologist. He was a member of the BGS's Executive Committee and responsible for managing an applied geological research programme worth approximately £15 m. Previously, he managed the Survey's Physical Hazards Programme, the Urban Geoscience and Geological Hazards Programme, the Coastal and Engineering Geology Group and the Engineering Geology and Geophysics Group. He has been involved in engineering geological research, environmental and engineering geological mapping, geohazard assessment, site investigation, urban geoscience and the application of geology to land use planning for over thirty eight years. During this time he has spent a number of years overseas in Asia, Africa, Europe and Central America.



He is Visiting Honorary Professor in Engineering Geology in the School of Civil Engineering at the University of Birmingham and an Honorary Research Associate at the BGS. He has published over one hundred and forty papers, books and articles and over a hundred and ten technical reports for the BGS, the UK, and overseas, government departments and private clients. He edited nine conference proceedings, as well as organising numerous meetings and conferences and serving on three journal editorial boards. He is currently an Assistant Editor of the Quarterly Journal of Engineering Geology and Hydrogeology. He received the Engineering Group of the Geological Society's Award for 1989 and was the Geological Society's Glossop Lecturer in 2004, receiving the Glossop Medal, and received the E B Burwell Jr Award from the Geological Society of America in 2006. In 2010 he will be awarded the International Association for Engineering Geology and the Environment's Hans Cloos Medal. He has been an external examiner at the universities of Edinburgh, Imperial College London, Kwa-Zulu Natal, Manchester, Newcastle, Portsmouth, Pretoria and Sheffield and is currently a research project assessor at the University of Lisbon.

He has served on various committees and steering groups for the International Association for Engineering Geology and the Environment, the Geological Society, the Institution of Civil Engineers and the Construction Industry Research and Information Association. He was a trustee and member of Council of the Geological Society from 2005 to 2009 and a Vice President from 2007 to 2009.

No registration is necessary

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