

Thursday 5 November 2009



**Speaker: Professor R. Kerry Rowe, FRSC, FCAE, FEIC, FASCE, FIEAust**  
**Queens's University, Kingston, Canada**

## **Systems engineering the design and operation of municipal solid waste landfills to minimize contamination of groundwater**

The lecture discusses the need to adopt a systems engineering approach to the design and operation of municipal solid waste landfills. It discusses how the interaction between the different components affects the performance of the entire system and how, due to this interaction, the performance of the system as a whole is much greater than the individual contributions of each of the parts. Issues discussed in this context include: landfill covers and the role they play, the effect of landfill operations such as the waste placement and leachate recirculation on liner temperature and leachate characteristics, leachate collection and the control of head on the liner, diffusion of contaminants through composite liners, the effect of geomembrane-clay liner interaction on leakage, the significance of wrinkles in a geomembrane, the effect of liner temperature on leakage, geomembrane protection, the long-term performance of geomembranes and geosynthetic clay liners, and finally the contaminant transport implications of these issues. It is concluded that by taking a systems approach to design, construction and operations we can provide safer containment of waste and long term-environmental protection.

Dr. Kerry Rowe is Professor of Civil Engineering and Vice Principal (Research) at Queen's University, Kingston, Canada. Prior to joining Queen's in 2000, Professor Rowe was educated at the University of Sydney BSc('73), BE(Hons I, '75), PhD('79), D.Eng ('93), worked for the Australian Government Department of Construction in Sydney, and spent 21 years at the University of Western Ontario. Author of more than 240 refereed journal papers; 3 books; 14 book chapters; more than 240 full conference papers, he has extensive research and consulting experience in the geotechnical and geoenvironmental engineering field. His research is reflected in landfill regulations in Canada and around the world. He has been recognized by numerous awards including being a former NSERC Steacie Fellow, a Killam Prize winner (Canada's highest award in Engineering), and was selected to present the 45<sup>th</sup> Rankine Lecture in March 2005. He is a fellow of both the Royal Society of Canada and the Canadian Academy of Engineering as well as Professional Societies in Australia, Canada and USA. He is past president of the International Geosynthetics Society, the Canadian Geotechnical Society and has just completed a 2 year term as President of the Engineering Institute of Canada.

### **Venue:**

*Monash Conference Centre,  
Level 7,  
30 Collins Street,  
Melbourne 3000*



### **Time:**

*Tea/coffee: 6.00-6.30 pm  
Lecture: 6.30-7.30 pm*

***For further information please contact:***

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***To register (registration is free) please contact:***

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