

# INVITATION

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**JIM GERMIDA**

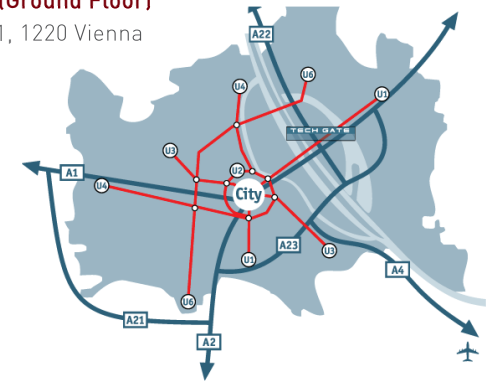
University of Saskatchewan, Canada

## » Application of phytoremediation technologies in Canada «

There are hundreds of thousands of sites in Canada contaminated with petroleum hydrocarbons (BTEX, TPH & PAH) or heavy metals. More recently, extraction of oil sands has created significant environmental challenges as industry responds to governmental regulations and societal concerns. Phytotechnologies involve the plant-assisted bioremediation of organic and inorganic contaminants and are essentially a form of ecological engineering that depends on natural, synergistic relationships among plants, microorganisms and the environment. Research during the past decade has attempted to assess the utility of plants in a remediation capacity under prevailing Canadian environmental conditions and associated regulatory oversight. The results of this work indicate that to fully exploit and use phytoremediation we need to gain a better understanding of: (i) the pool of phytoremediation species found in Canada; (ii) how phytoremediation operates under unique Canadian climatic conditions; (iii) the mechanisms employed by phytoremediator plants to restore contaminated sites; and (iv) the agronomic requirements needed to maximize phytoremediation as an efficient and cost-effective clean-up technology. A focus of this presentation is on 'field performance data' demonstrating the potential and appropriate uses of the newly emerging phytotechnologies across a range of contaminated sites.

**Date** 19 October, 3.30 pm

**Venue** TechGate,  
Seminar Room 0.3 (Ground Floor)  
Donau-City Straße 1, 1220 Vienna



**Prof. J. Germida** He is a Professor of Soil Microbiology at the University of Saskatchewan. He received his undergraduate training at the University of Maryland, and obtained his Ph.D. at the Pennsylvania State University in 1980. He has been the Co-editor of the Canadian Journal of Microbiology since 1993. He is also a member of the Editorial Boards of Soil Biology & Biochemistry, International Journal of Phytoremediation and Arid Land Research and Management. He served as the President of the Canadian Society of Microbiologists in 2001, and continues to serve on a number of national and international grant review panels, and government commissions. His research focus is on microbial biodiversity in agroecosystems and the use of plant-microbe systems (microbial endophytes) for phytoremediation of contaminated soil ecosystems. He has published over 130 refereed publications..

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For additional information about the series please contact  
Susanne Kiefer (phone: +43 50550 4406)

# Application of phytoremediation technologies in Canada

Jim Germida, **University of Saskatchewan, Canada**

AIT Austrian Institute of Technology  
October 19, 2011, 15:30-16:30  
Tech Gate, Conference Room 0.3 (Ground Floor)  
Donau-City Str. 1, 1220 Vienna

## Abstract

There are hundreds of thousands of sites in Canada contaminated with petroleum hydrocarbons (BTEX, TPH & PAH) or heavy metals. More recently, extraction of oil sands has created significant environmental challenges as industry responds to governmental regulations and societal concerns. Phytotechnologies involve the plant-assisted bioremediation of organic and inorganic contaminants and are essentially a form of ecological engineering that depends on natural, synergistic relationships among plants, microorganisms and the environment. Research during the past decade has attempted to assess the utility of plants in a remediation capacity under prevailing Canadian environmental conditions and associated regulatory oversight. The results of this work indicate that to fully exploit and use phytoremediation we need to gain a better understanding of: (i) the pool of phytoremediation species found in Canada; (ii) how phytoremediation operates under unique Canadian climatic conditions; (iii) the mechanisms employed by phytoremediator plants to restore contaminated sites; and (iv) the agronomic requirements needed to maximize phytoremediation as an efficient and cost-effective clean-up technology. A focus of this presentation is on 'field performance data' demonstrating the potential and appropriate uses of the newly emerging phytotechnologies across a range of contaminated sites.

## Biosketch

**Jim Germida** is a Professor of Soil Microbiology at the University of Saskatchewan. Since 2004 he has also served as the vice-provost for faculty relations. He received his undergraduate training at the University of Maryland, and obtained his Ph.D. at the Pennsylvania State University in 1980. He has been the Co-editor of the Canadian Journal of Microbiology since 1993. He is also a member of the Editorial Boards of Soil Biology & Biochemistry, International Journal of Phytoremediation and Arid Land Research



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