



Book of **Abstracts**
**2015 International Conference Of
Clean Water, Air & Soil**

28-30TH AUGUST 2015

Armada Hotel, Malaysia



International Water, Air & Soil Conservation Society

TECHNICAL SESSIONS

Saturday, 29th August 2015

Parallel Session 1

Session 1A (Pollution and Hazardous Substances)		
Venue: Arcadia I		
Time	Paper ID	Title
11.30	28425	Enhanced Photocatalytic Degradation of Methyl Orange Dye in Water Solutions by a Combined Homogeneous and Heterogeneous Photocatalysis Process
11.45	28493	Efficient Removal of Cr(VI) from Water Using Layer Double Hydroxides
12.00	28664	Analysis of Heavy Metals Content as a Key Indicator to Predict Shallow Slope Failure
12.15	28533	Nanostructured Copper(II)- Manganese(II)- Binary Oxide: A Novel Adsorbent for Enhanced Arsenic Removal from Drinking Water
12.30	28556	Biomass Growth and Substrate Removal in Fish Processing Saline Wastewater by Aerobic Biodegradation

Session 1B (Environmental Management and Monitoring)		
Venue: Arcadia II		
Time	Paper ID	Title
11.30	28517	Bioremediation of Polychlorinated Biphenyl (PCBs) Contaminated Soils: A Case Study from Rietvlei Farm at Borehole No. 11, Limpopo province, South Africa
11.45	28510	Concentration of PAHs, PCP and OCP in Soil, Lichen and Pine Needles in Meric-Ergene Basin, Turkey
12.00	28501	A Combined Methodology to Assess The Intrinsic Vulnerability of Aquifers to Pollution from Agrochemicals
12.15	28626	Parameter Estimation of Nonlinear Muskingum Model with Variable Exponent Using Adaptive Genetic Algorithm
12.30	28662	Evaluation of Carbon Reduction Through Integration of Vertical and Horizontal Landscape Design for Hotel Premises

Analysis of Heavy Metals Content as a Key Indicator to Predict Shallow Slope Failure

Rashidi Othman^{1,*}, Shah Irani Hasni¹ and Zainul Mukrim Baharuddin²

¹International Institute for Halal Research and Training (INHART)

²Herbarium Unit, Department of Landscape Architecture, Kulliyah of Architecture and Environmental Design, International Islamic University Malaysia, 53100 Kuala Lumpur, Malaysia

rashidi@iium.edu.my

Abstract. Degradation or decline of soil quality that cause shallow slope failure may occur due to physical or chemical processes. It can be triggered off by natural phenomena, or induced by humans through misuse of land resources, excessive development and urbanization leads to deforestation and erosion of the covered soil masses that causing serious threat to slopes. The extent of damages of the slopes could be minimized if a long-term early warning system to predict the landslide prone areas would have been in place. The aim of the study is to characterize chemical properties of stable and unstable slope along selected highways in Malaysia which can be manipulated as indicator to forecast shallow slope failure. Those elements in soil chemical properties contributed to each other as binding agents that affects the existing soil structure. It could make the soil structure strong or weak .In conclusion, indicators that can be used to predict shallow slope failure are low content of Ferum (Fe), Plumbum (Pb), Aluminum (Al), Chromium (Cr), Zinc (Zn), low content of organic carbon and CEC.

Keywords: Oxisols; soil chemical properties; heavy metal; shallow slope failure; CEC