# Considerations for determining anthropogenic background of arsenic in urban areas. (S11chirenje125828-Oral)

Authors:

- T.Chirenje\* University of Florida
- L.Q.Ma University of Florida
- E.J.Zillioux *Florida Power and Light*
- M.Reeves University of Florida
- P.Cline Golder Associates
- T.Potter USDA-ARS. Georgia

# Abstract:

Arsenic contamination is of concern due to its toxicity and carcinogenic properties. There are many challenges in the determination of arsenic background concentrations in soils. However, these challenges are magnified when those determinations are carried out on urban soils. Irrespective of this, it is important to correctly identify and understand the extent of pollution in order to provide efficient preventative, remedial actions, and cost effective management of contaminated areas. Factors that make the determination of arsenic background concentrations in urban areas different from those of nonurban areas and proposed solutions based on experiences from determining arsenic background concentrations in both urban and non-urban areas in Florida are discussed. Urban soils are considerably different from non-urban areas due to significant human disturbance, making these soils more difficult to study. They are typically characterized by high spatial and temporal variability, compaction, and modified chemical and physical characteristics. These differences have to be addressed during site selection, sample collection, and statistical analyses when determining arsenic distribution.

### **Corresponding Author Information:**

Tait Chirenje University of Florida 2169 McCarty Hall, UF Gainesville, FL 32611 phone: 352 392 2303 fax: 352 392 3902 e-mail: tchirenj@grove.ufl.edu

## **Presentation Information:**

Presentation Date: Wednesday, November 13, 2002 Presentation Time: 8:00 am

Keywords: anthropogenic background, log-normal distribution, pedogenic processes