



**THE UNIVERSITY OF THE WEST INDIES**  
**ST. AUGUSTINE, TRINIDAD AND TOBAGO, WEST INDIES**  
**Department of Food Production/Faculty of Food and Agriculture**

## Agrogeology – Geology in the Service of Agriculture



Dr. Peter van Straaten is a geologist with a PhD from the University of Goettingen, Germany. He conducted field work for his PhD in Uganda on Precambrian geology along the Western Rift valley. For almost ten years he has worked for United Nations projects (UNDP, UNECA) as field geologist and exploration geochemist in East Africa. In 1984, he expanded his career and introduced the new interdisciplinary science of agrogeology – geology in the service of agriculture. For this, he moved to the University of Guelph, Canada. Supported by Canadian and international funding sources he carried out agrogeological projects in Eastern and Southern Africa, Asia and South America. In 2007, Dr. van Straaten retired and became Professor Emeritus at the Ontario Agricultural College of the University of Guelph.

### **Abstract:**

*Agrogeology is a relatively new inter-disciplinary science involving geologists, soil scientists, agronomists and farmers. The two main aspects of agrogeology are: 1) The influence of parent material on soil development and soil properties, and 2) beneficial application of rocks and minerals to enhance productivity of soils (Rocks for Crops). Examples will be provided from some recent rock-soil surveys in NE Brazil and East Africa, where novel geophysical methods have been tested. Soil fertility depletion has been identified as one of the fundamental constraint to increased agricultural productivity in many tropical countries. Long periods of continuous cultivation without nutrient replenishment resulted in the depletion of inherent soil fertility and subsequent decline in productivity. The annual soil depletion rate in sub-Saharan Africa of 22 kg (N), 2.5 kg (P) and 15 kg (K) per hectare of cultivated land per year, is equivalent to US \$4 billion in fertilizer costs. The solubility of local phosphate rocks (PRs), though generally low, can be enhanced using various modification techniques, including biosolubilization, blending with acidulating materials, mechanical activation and thermal processing. Furthermore, novel research on the extraction and use of K-bearing rocks in Brazil and Uganda will be reported.*

**Date: Thursday 26th February, 2015**

**Time: 12:15p.m.– 1:15p.m.**

**Venue: Room C, Sir Frank Stockdale Building, Faculty of Food and Agriculture**

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