



The Biodiversity Seminar Series is pleased to announce

Bill Eaton, PhD

from Department of Biology, Pace University

presenting the talk

“Determining the efficiency of soil ecosystem recovery in a sustainable forestry project in Costa Rica”

Abstract:

It is unknown if restoration strategies used for cleared Neotropical forests involving regeneration of secondary forests or development of tree plantations restores soil biotic composition and biomass critical for C and N sequestration to levels approaching that of former primary forest. Soils were collected from a primary forest (PF), and adjacent grasslands (GR), secondary forests (SF), 5-year-old (YV) and 16-year-old (OV) plantings of the indigenous canopy tree species *Vochysia guatemalensis* and were analyzed for C, N, biomass C, NO_3^- , NH_4^+ , and $\text{NO}_3^-/\text{NH}_4^+$ ratio. Soil DNA were targeted for fungal ITS and bacterial 16S regions. The data shows that OV soils are recovering well, and trending towards conditions of PF soils, compared to YV and GR soils. Thus, planting *V. guatemalensis* enhances soil ecosystem recovery of cleared forests, provides a soil microbial community composition that efficiently generates biomass C, increases the potential for soil C and N sequestration, while providing a sustainable forestry method beneficial to the economy and environment in the region, based on 16-year harvest rotations, and reduces the pressure need to harvest other forests.

Brief Bio:

I received my BA (Wildlife Zoology--1979) and MA (Biology/Parasitology--1981) at San Jose State University. Then after finishing off 7 years in construction, I went back to school, and received my PhD at the University of California, Davis in Microbiology (1987). I've been a faculty member at the University of Alaska, Fairbanks/the Juneau Center, Malaspina University College, Penn State University, California State University, Monterey Bay, Peninsula College (Washington State), Kean University (New Jersey), and Pace University. For some strange reason, I decided to move into Academic Administration for the middle part of my career. Thus, I served as an Academic VP at Penn State, Peninsula College, and California State University, Monterey Bay. Now, I am Chair of the Biology Department at Pace University. My early research focused on infectious diseases of aquatic animals, but for the last 20 years, I have been working on the role of microbes in the soil on C and N cycle activities, and how land management effects these processes in Washington State, Belize, New Jersey, and Costa Rica. I have been working in the Costa Rican jungles for 15 years now, and 7 of them with Katie McGee, who is finishing up her PhD at Guelph, working with Dr. Mehrdad Hajibabaei, who has also contributed significantly to my research efforts.

When: Thursday April 6th, 2017 at 12:00 pm

Where: Visualization Theatre, Room 1009

Biodiversity Institute of Ontario

For scheduling and more information on the seminars, please visit:

<http://biodiversitygenomics.net/resources/seminar-series/>

