

ENVIRONMENTAL SCIENCE FULBRIGHT SENIOR SPECIALIST AWARD AT THE UNIVERSITY OF THE WEST INDIES, MONA CAMPUS, KINGSTON, JAMAICA

This article appeared in the American Institute of Professional Geologist's The Professional Geologist, July 2003, Volume 40, No. 5, p. 2-3.

James A. Jacobs

Hydrogeologist
Environmental Bio-Systems, Inc.

It is truly an honor to be selected by the Council of International Exchange of Scholars (CIES) for a Fulbright Senior Specialists Grant. My two-week Fulbright Senior Specialists Grant started on March 23, 2003. It took most of the day to fly from San Francisco, California to Kingston, Jamaica. After going through Jamaican customs, I was greeted at the Norman Manley International Airport in Kingston by my host, Professor Jasminko Karanjac. He had invited a Fulbright Senior Specialist and made arrangements for hosting me. The purpose of my grant was two-fold: (1) to share environmental assessment and remediation concepts used in the United States with professors, students, regulators and professionals and (2) to assist Professor Karanjac in the development of the Masters Degree Program in Water Resources Management at The University of the West Indies (UWI), Mona Campus. This last task was modified due to the ultimate timing of the grant. Professor Karanjac had already developed the Water Resources Management Program by the time I arrived. However, I was able to review and discuss the syllabus and scheduled classes, which are planned for the Fall, 2003 and Spring, 2004 semesters. We had numerous discussions on the program.

I stayed in a lovely 1-bedroom flat on Long Mountain Road, a secure and scenic area, just a few blocks from campus. The view from my front window included a variety of tropical flowering plants and palm trees. In the distance I could see the famous Blue Mountain, which reaches over 6,000 feet and is well known for some of the best coffee in the world. My host and his wife took me to the Dunn River Falls in Ocho Rios on the north shore of the island. The beach was beautiful with clean sand, warm blue-green waters and palm trees. The food in Jamaica was exotic and good: chilled guava juice, fresh fish, jerk chicken, ox-tail stew, red beans and rice, and fried plantains.

Professor Karanjac arranged for me to have an office in the Pure and Applied Sciences Faculty Building. I brought my laptop computer with me. My temporary office had an Internet connection so I was able to keep in touch with my California colleagues and family and hear the news of the outside world. I spent part of the first week getting acquainted with the UWI staff and preparing Jamaica-specific lectures that would meet the needs of the audience. I made three main presentations at UWI. The first event was a general lecture on Environmental Remediation Technologies of the United States. This lecture focused on chemical oxidation, enhanced bioremediation and geochemical

fixation of hexavalent chromium. Mostly professors, UWI researchers and graduate students, as well as several professionals working for private firms and several regulators attended the lecture. The second lecture was part of a weekly UWI Geology Department seminar for graduate students. The topic was an Overview of Environmental Regulations in the United States and a discussion on Pharmaceuticals, Personal Care Products (PPCP) in the Hydrologic Cycle. Thoughtful questions indicated an interest in the topic presented.

Based on meetings during the week, a three-hour seminar was presented at the request of the Petroleum Corporation of Jamaica. It was well attended by a variety of environmental professionals who worked at major oil companies, regulatory agencies or at consulting firms.

Dr. Karanjac and I had a productive meeting with senior personnel Orna Blum and Angella Harvey of the Office of Public Affairs with the U.S. Embassy. We also met with Joseph Trimble, Economic Officer at the Embassy of the United States and Howard Batson, Director of Environment and Natural Resources at the U.S. Agency for International Development to discuss environmental needs of Jamaica and ways the U.S. programs might assist the island. Earlier in the week we met with Basil Fernandez, Jamaica's Managing Director of Water Resources Authority (WRA) and some of his staff. We also met with several senior staff members from the Jamaica National Environment and Planning Agency (NEPA).

There are many interesting groundwater problems that were brought to my attention during my brief visit. Some of these are typical of the developing world, while others are associated with Jamaica-specific conditions. Nitrate contamination of groundwater associated with agricultural practices of the sugar cane industry is a major problem for domestic well use in the Clarendon Plain area and elsewhere.

Unlined landfills outside of Kingston situated in areas of shallow groundwater along the south shore reflect challenges in handling solid waste on the island. Aluminum processors in the central highlands produce wastewaters high in sodium. This wastewater is released into unlined ponds where the sodium-rich waters percolate into the fractured limestone aquifers, destroying potable groundwater availability downgradient. Saltwater intrusion caused by overpumping of groundwater resources is common in Jamaican coastal zones, as well as throughout the coastal areas of the Caribbean islands.

Jamaica is world-famous for rum, and the spirit makers distill the rum in a centuries-old tradition. The mash that is left at the end of the fermentation and distillation process is called dunder. When released to the environment, the dunder contributes to anoxic conditions in local streams and groundwater, causing fish kills for local aquaculture.

Later in the week, I met with almost a dozen undergraduate students and described what professional geologists in the United States do for a living, the business cycle and how it affects employment. We discussed advanced training, the price of oil and mineral resources, and the value of computer, GPS/GIS, communication and leadership skills.

After a discussion on the various types of training for geologists, I answered questions from the students. Those in attendance at the various lectures and seminars were polite. They had many questions and we engaged in lively discussions.

English is the official language of Jamaica. While taking a ten-minute break during one set of lectures, I was approached by a Jamaican geologist who said something to me. I didn't quite understand what he had said due to his thick Jamaican accent, which seemed strange to my ears. It turned out that he was saying that he could not understand all of what I was saying due to my thick foreign American accent. Encounters like these are always insightful and meaningful, reminding us that we sometimes see ourselves differently than others see us.

This portion of my Fulbright assignment concluded on April 5, 2003, the day I flew home. It was a terrific experience that I enjoyed thoroughly. As I look to the future, I hope to assist my newly met colleagues with a variety of Jamaican environmental projects in the coming months. I am grateful for this international exchange program. Now more than ever, it is especially important that Fulbrighters as unofficial ambassadors of the United States, promote mutual understanding and respect between our country and other nations.

OVERVIEW OF THE FULBRIGHT PROGRAM: The Fulbright Program was started at the end of a different war over 50 years ago to promote mutual understanding and respect between the United States and other nations. It is an international educational exchange program established by the U.S. Congress in 1946 under legislation introduced by the late Senator J. William Fulbright of Arkansas. Designed to increase mutual understanding between the people of the United States and the people of other countries, the program is administered by the U.S. government through the CIES in cooperation with over 140 countries around the world. The Fulbright Program emphasizes academic and professional excellence with awards based on open competition. The U.S. Congress provides annual funding for these awards. Unfortunately, this year the budget at the CIES has been cut drastically. Interested readers can notify their congressional leaders that the CIES program is an important part of building and maintaining U.S. international relations and should be funded generously.

James A. Jacobs
Environmental Bio-Systems, Inc.
707 View Point Road, Mill Valley, CA 94941 USA
tel: 415-381-5195; fax: 415-381-5816
email: augerpro@sbcglobal.net