Years of intense diamond exploration by large mining companies in the dense bush of NW Liberia, known for its artisanal exploitation of alluvial Blood Diamonds, led to the discovery of narrow (~10m wide) kimberlite dikes but no pipes, the cardinal target in diamond exploration programs. Erosion of 1-2 km of the Man Shield was long considered to have left only the vestiges of pipes. Adopting a paradigm shift and employing advances in the interpretation of diamond-associated minerals in my Deep Earth Research Program, the discovery of an elusive diamond-bearing kimberlite pipe in now confirmed. A bonus to the pipe discovery, the first in over five decades, is that an unusual botanical indicator, Pandanus candelabrum is recognized, exclusively on the pipe and not in eluvium covering a suite of en echelon kimberlite dikes. Plants (Lychnis alpina) have been widely used since medieval times for copper in Sweden, and with Haumaniastrum katangense, more recently in Africa. Other plants have evolved to physiologically stabilize heavy metals (U, Pb, Zn, Ni, Cr, Ba, Au) in leaves and bark. Termite hills have been used in diamond exploration for kimberlitic indicator minerals (ilmenite, chromite, garnet, pyroxene) in Botswana, USA and Australia but the identification of Pandanus candelabrum, with stilt-like aerial roots and thorn-encrusted fronds is the first plant to be described that has a marked affinity for kimberlite pipes. Closely related species in alkali-rich volcanic settings have now come to light in Zimbabwe and in the East African Rift System. These findings could dramatically change the exploration dynamics for diamonds in West Africa, as geobotanical mapping and sampling are cost-effective in tough terrain. Prospecting for base and precious metals using plant hyperaccumulators have been highly successful in Australia. With genetically-modified species, remediation of abandoned mines, and the metal-harvesting of low grade ore deposits could realistically lead to agro-mining in the near future.

**Where:** University Park Campus, Turnpike and SW 8th ST, Miami, Primera Casa (PC) 310

**Time:** 3 pm, Friday, October 9, 2015

Free and open to the public