Abstract: Lunar exploration in the late 60s & early 70s was motivated by three factors: 1. A race, after the successful deployment of Sputnik & Yuri Gagarin to beat the USSR; 2. An engineering feat—sans 5G; and 3. A search for life. The first two were accomplished, the third remains elusive.

The Moon, as our closest celestial neighbor, enjoys a number of unusual properties: the Moon is ~ 25% smaller than Earth, the largest ratio in the solar system; Earth [4.55 Ga] is marginally older than the Moon [4.50–4.52 Ga], but the two bodies are surprising similar in bulk chemistry and isotopically; rotating & spherical, in common with 99.9% of celestial bodies, the Moon displays only one face; the Moon originated from Earth following a massive bolide impact; a magma ocean developed with density fractionation into a core [Fe-Ni metal with an ancient magnetic field], an olivine-rich lower mantle, a basaltic upper mantle, and an growing large-scale botanical research through citizen science

Abstract: Fairchild Tropical Botanic Garden (FTBG) operates several large-scale botanical research projects that rely on massive input from citizen scientists. With more than six million people living in the greater Miami metropolitan area, there is incredible potential for local community members to get involved in large and ambitious projects. FTBG’s two largest citizen science initiatives are (1) the Million Orchid Project, an effort to reintroduce rare, native orchids into local urban landscapes, and (2) Growing Beyond Earth, a partnership with NASA to grow food plants in low resource environments. With thousands of participants, both projects have a greater impact than could be achieved by professional scientists alone. They involve students from pre-kindergarten through Ph.D.-level graduate study, along with adult volunteers from all parts of the community. The Million Orchid Project led to the discovery of new methods for propagating and out-planting South Florida native orchids while producing publications on orchid molecular biology and ecology. Growing Beyond Earth provided data to NASA that influenced ground experiments at Kennedy Space Center and flight experiments on the International Space Station. Both projects helped the Garden meet its commitment to engage the community in botanical research, and both serve as models for other large projects at FTBG and beyond.

Featuring
Dr. Carl E. Lewis
Director
Fairchild Tropical Botanical Garden

3:00 p.m. Friday, October 11th, 2019
Wertheim Conservatory: WC-130
Modesto Maidique Campus
11200 SW 8 Street, MIAMI FL 33199

This event is free and open to the public.