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Profile - Fernbank Museum of Natural History

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THE ROOFTOPS PROJECT

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Profiles

Fernbank Museum of Natural History

Any natural history or science museum would be proud to have the diversity of collections and programmatic resources found at Fernbank Museum of Natural History in Atlanta, Georgia. But few if any can lay claim, as Fernbank does, to having “grown out of a forest.” **Professor James Hagy**, Director of The Rooftops Project, talks with **Aneli Nugteren**, Executive Vice President and Chief Operating Officer of Fernbank Museum, about its unique campus, mission, and facilities.

Although of modern construction, Fernbank Museum of Natural History does not have the curb presence of your average urban museum. Located in a heavily wooded area of northeast metropolitan Atlanta, the Museum envelops visitors in Georgia’s natural history even before they leave their cars.

The setting is no coincidence. Fernbank, Inc., the entity which owns and operates Fernbank Museum of Natural History, was formed during the Great Depression as the vision of Emily Harrison. Emily had grown up in the area, played in the neighboring woodlands, and is credited with naming the area “Fernbank,” a term recognized in the community as early as the late 1880s.

Originally, Fernbank, Inc. purchased and cared for the 65-acre parcel comprising the Fernbank Forest, today the largest remaining urban example of the Piedmont region’s once extensive, undisturbed mixed hardwood forests. Soon after acquiring the forest, Fernbank, Inc. made part of it available to the DeKalb School System on a long-term basis for what became the Fernbank Science Center, a separate organization operated as part of the school system and founded in the 1960s.

Some 100 years after Emily Harrison’s first encounters with the native Fernbank Forest environment, Fernbank, Inc. also celebrated the opening of

Fernbank Museum of Natural History, which it designed, built, and now owns and operates. Fernbank Museum has become one of the most visited cultural attractions in the region, hosting some half-million annual visitors.

The educational focus of Fernbank Museum is broad and impressive, from native Georgia dinosaurs and archeological finds to the environment, from natural forest to public parks, from a group of six early 20th century homes to a pair of Frederick Law Olmsted parks, from an IMAX® educational theater to an astronomy gallery enabled by fiber optic technology.

Engagement in the Museum experience starts long before entering the building. As you approach the facility via the recently remodeled front plaza, you are greeted by three 20-foot-long bronzed Hadrosaurids, duck-billed dinosaurs native to the region that is now Georgia during its long-ago swampy prehistory. Once inside, under foot are limestone floors made up of some 40,000 individual tiles containing visible fossil remains of former marine life from a shallow reef in southern Germany during the Jurassic period—you know the one—more than 150 million years ago.

Aneli Nugteren, Executive Vice President and Chief Operating Officer of Fernbank Museum, shares her origins with these fossils in a sense, having herself grown up in Germany. With Fernbank for more than a decade, she previously served as Vice President of Environmental Affairs for the Metro Atlanta Chamber of Commerce and as an airport planning consultant.

While it is tempting to start any real estate and facilities story with the structures themselves, Fernbank Museum is very much a product of its natural surroundings. The campus in total is some 121 acres, 65 acres of which are the initial forest acquisition.

The next properties to be added were the single family homes, built along Ponce de Leon between 1915 and 1921 and acquired by the Museum in the 1970s and 1980s. A sixth house is located within the forest. These structures today are used for offices and storage, as well as serving as a buffer between the Museum properties and the surrounding residential community.



The Olmsted parks were gifted to Fernbank by Emory University in 1972 with a commitment to retain them for public park purposes. Aneli's excitement about them is visible. "I am a city planner by trade. So to have Olmstedian parks? Oooh, that was very attractive. I am a landscape architect at heart, even though not in degree." She takes equal pleasure in her institution's responsibility for the Fernbank Forest. "Being raised in Germany, forest management is a field that is close to my heart as well."

The forest has many champion trees, a designation established by the Georgia Forestry Commission as Georgia's Champion Tree Program. There are similar designation programs in several other states, as well as a National Register of Big Trees, maintained since the 1940s by American Forests, itself a not-for-profit organization. Each organization designates specific measurements such as width, circumference of the base, tree canopy, and height, as well as other criteria.

"For example, we have the Georgia champion—it is the co-largest; there is another one that is as large. We have the largest short-leaf pine, *Pinus Echinata*, which is actually very unusual in this area, that it is this far north. But because of the topography it has survived and it is quite large. We have the largest winged elm, we believe, not just in Georgia but in the world. It is 126 feet high, with a 57-foot spread and an 80-inch circumference. We have the largest black oak in the metro Atlanta area, which is 20 counties. We have the largest umbrella magnolia right out back, and the largest silver maple. The Eastern Hemlock and the Persimmon are the largest in Atlanta or runners-up in some cases, ones that aren't quite as big."

The Fernbank Forest is unusual both because its trees were protected from harvesting as hardwoods for furniture or other commercial uses and for having survived possible loss through natural causes. Aneli indicates that while fortunate, the Fernbank property was of course not immune from the elements.

"A lot of trees as they get older succumb to environmental pressures. With Hurricane Opal, we lost 30 trees in the forest. But there is a ridge, then a steep drop-off, and a lot of the champion trees were sheltered from this wind. There is some treetop damage, but there are trees in there that have survived longer than they really should. There are 250- to 300-year-old trees in there and they are at the end of their lifespan. It is important to get these designations now before they fall. It is constantly evolving."

The Museum intends to prioritize funding for a full survey of its 120-plus acres. Right now, the Museum works from a county plat map. The survey will better inventory the forest's extraordinary trees and show topography in detail, while also supporting the applications for permits necessary to do restoration work in the forest.

Although 20 years old, the Graham de Conde Gund-designed museum facility looks brand-new. Accomplishing this, of course, requires planning, effort, and funds. "I think working for a museum is glamorized. People think, 'Wow, you work at a museum; that must be wonderful.' And it is. It is an awesome job. People don't realize how much complexity and drama and hard work goes into it."

"I always joke about lifecycle cost accounting. Right, when it breaks, we replace it. I don't really have that luxury of phasing things out. We try to get every last morsel of life out of something, and then kick it a few more times

and hope it lasts a little longer. Again, we have a great staff who work around issues and problems and make fixes that work without breaking us."

Aneli does not see borrowing for repairs, or any purpose, as a viable strategy. "We have a convulsive reaction to borrowing money. Luckily we are quite frugal but we also keep a reserve. We don't quite cover our depreciation reserve, which should go to all of these repairs. But in good years we have a little left over."

The Museum recently undertook a capital campaign to make both infrastructure improvements and programmatic enhancements. This work was completed in 2009 and 2010, funded by a relatively quiet campaign from a core group of about 150 key supporters.

An important element of the renovations was the installation of the new Dinosaur Plaza. Previously, the front entrance was designed as a reflecting pool to complement the architecture of the main building. But visitors sometimes engaged it in unintended ways, as Aneli explains.

"Many of the neighbors were putting their turtles when they got too big, and their frogs and crawdads, back into the pond. It was a safety issue as well, with the children running to the pond to see if there were any fish in the pond,



Photographer/Artist: © Fernbank Museum



Photographer/Artist: © Fernbank Museum



which there weren't. The pond was never built with pumps or other things to facilitate wildlife. So they would run across the street, look, and then run back to their parents.

"We wanted to make it a pedestrian area and limit vehicular access. So we made the change with the pavers, to indicate that there is a change here, from road to public space." Rockwork and nine waterfalls were also part of the project.

It was during this renovation that the bird-like dinosaurs made their debut. "We added the three Hadrosaurids out front. They have never been on display in any museum before. They are Georgia dinosaurs, they roamed the Southeast. They are Lophorhynchons, they were the cows of the Cretaceous period." Lophorhynchon means "crested nose."

While seeing imposing dinosaurs at the front entrance may be engaging enough, especially for children, Aneli notes that the connection with the visitor doesn't stop there. "We wanted to do a family of dinosaurs to represent family membership, which is our biggest visitor base. What better way to welcome families than to have the family of dinosaurs? We thought showing the family dynamic of dinosaurs was more appropriate and more subtle than a ravaging fight to the death out front." Museum patrons voted on fitting names for the dinosaurs; the mother is Georgia, the children Haddie and Ferny.

The total investment in the new plaza was just under \$2 million of the total capital program. "We added the amphitheater and seat wall for presentations, storytelling classes, bringing out animal encounters. We explain that there were dinosaurs in Georgia and that most of Georgia was underwater at the time. These creatures likely lived right at the coast and some of them succumbed to sharks. It is a great educational piece that also adds that element of excitement as you come into the building. 'There must be something cool inside if it is this cool outside.'"

As with any facilities initiative, not all of the capital needs are glamorous. The successful campaign allowed a number of necessary repairs to be addressed. The Museum replaced the roof on the main Museum building, for example. Another goal of the capital improvement program was to make necessary repairs to the homes along Ponce de Leon. Like any homeowner, keeping up interesting but aging residential structures can be costly. "We spent \$1 million doing exterior stabilization, getting new roofs on, getting the peeling paint off. We removed 50 barrels of lead paint off the windows and doors, and had to get a hazardous waste permit and dispose of it. We repainted them. We had an historic preservation architect pick out the grout colors. We had to re-point everything. We had foundation issues. We also put security systems in. It was quite an undertaking."

The investment in new educational exhibits extended inside as well. The capital program included \$8 million for a new, innovative children's exhibition upstairs called *Fernbank NatureQuest*, which opened in March 2011. The installation has between 150 and 200 individual hands-on activities, providing plenty to do for family visitors.

Centered on visitors ages 2 through 10, *Fernbank NatureQuest* is organized as a clubhouse among simulated treetops and encourages exploration of nature, archaeology, and science. The objective was to make children participants, not bystanders. The hum in the exhibit during opening hours is testament to how it works.

While Aneli believes strongly that the mission of Fernbank Museum is education and not entertainment, exhibits like *NatureQuest* and live educational programming drive a very significant increase in attendance figures. "We specialize in experiences. *NatureQuest* is being honored with some international awards on the amusement park side of things. So I do think there is some recognition on their part that we have crossed the line a little bit, because it is an experiential exhibit. It is not a traditional exhibit in that sense."

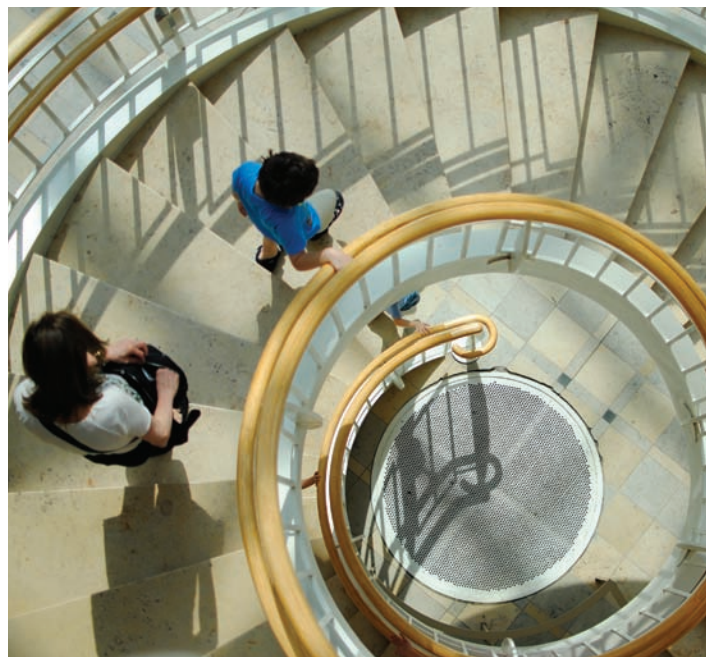
Similarly, the Museum's five-story IMAX® theater uses engaging technology, but for films and programs that are mission-focused. "We try to bring in four to six films a year. They are all educational." The Museum also has a "Martinis and IMAX®" program for adults which, for example, hosted a trivia night last fall tied to a special exhibition of Charles Darwin artifacts and scientific tools.

Even though *NatureQuest* is a self-directed experience for visitors, operating a large, interactive exhibit for the public takes a deliberate plan and daily attention by a collaborative team of staff and volunteer docents. "We have three facilitators, one at any given time and sometimes two on busy days." These facilitators can assist visitors, as well as suggesting that people tour the rest of the museum and come back to *NatureQuest* in a little while if it gets especially busy.

The facilitators also address keeping the surfaces clean in such a constantly-used and interactive space. "It was designed to help with the cleaning. There is a lot of antibacterial wiping going on, and when there are accidents, which are many."

Exhibits elsewhere in the Museum require special cleaning as well, due to the nature of the artifacts. Aneli makes a distinction between the areas to be cleaned. "We have our custodial company that takes care of the public spaces, but the exhibits are taken care of by exhibit professionals."

In the visitor restrooms, Aneli researched and then adopted an innovation created and marketed by a local Atlanta mother, Joi Sumpton. StepNWash®



Photographer/Artist: © Panorama Bay Herbert III



THE ROOFTOPS PROJECT

Profiles

is a floor-mounted, stainless steel step that can be installed under sinks to allow children to step up and wash their hands, then retract when not in use. According to the company website, www.stepnwash.com, it has been adopted by cultural institutions, retailers, even airports around the country.

"She has three kids and she got really tired of lifting each kid up to wash their hands. We installed them, and they are quite popular with the mothers. We put them in the dads' rooms, too. The kids naturally know, 'OK, I can step up and wash my hands without Mom having to lift me.' It is very inexpensive. They have been installed in most cultural institutions here in town. They are at the zoo, the aquarium, other places. They see them and they have to have them. They are a real crowd-pleaser."

The Museum has plenty of experience managing visitor flow, even after hours. Many cultural institutions host events as part of their mission and as a source of sustaining revenues. For a 155,000-square-foot facility, Fernbank Museum has an especially busy calendar, with more than one event on average per day. Aneli provides the picture. "We have 400 external events a year, and about 250 internal events a year. It is a million dollar undertaking that helps keep the doors open."

While the external event count includes small groups such as birthday parties—there are usually two of these per weekend—the Museum also hosts large-scale events. The facility accommodates 400 to 500 for seated dinners, 2,000 people for receptions. Other possible venues include the Museum's lobby, the exterior Dinosaur Plaza, the IMAX® theater, which seats 315, an auditorium that seats 178, and The Star Gallery, the Museum's astronomy space where lighting simulates the change from day to night. In 2003, for an event for then-President Bush, more than 5,000 people attended.

While Fernbank is a major institution in constant use by staff and visitors alike, the tone set among the staff is one of small group collaboration. Everyone pitches in.

"We have a wonderful volunteer spirit here. Just today, I was outside and the dining room manager came up and said, 'We are slow today, do you need any help out here?' They enjoy it, it gets them out of their daily routine."

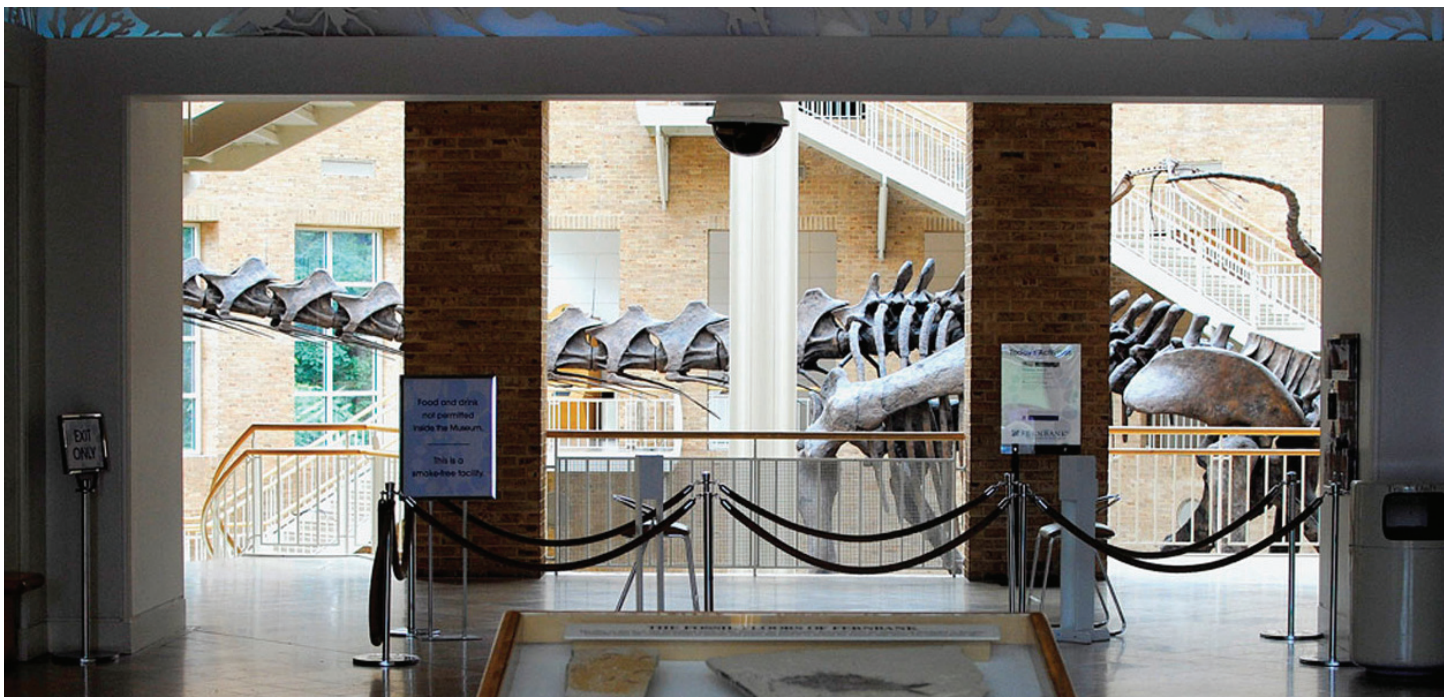
"One thing people have learned quickly is that they can never say, 'I didn't have enough people, I didn't have enough time, I didn't have the resources I needed.' If they come to us, we will find them somebody or figure it out. Ticketing will ask Marketing to help them and they will jump in to help. When Marketing needs somebody, Ticketing says, 'We'll help you stuff those dinosaur eggs, all 4,000 of them.' And then they will do that. It really does work both ways. They get a little taste of what their job is like, and they will speak up on their behalf, and that is nice to see."

Aneli lives this philosophy herself. Two winters ago, when Atlanta had an unusually severe snow and ice storm that closed the city, including the Museum, for the better part of a week, Aneli trudged in and fed the encounter animals. The day before my visit, Aneli worked outside alongside a couple of friends in the landscape business, including her husband, and with her custodial contractor, all volunteering by planting flowers as part of the seasonal color change. "I was joking that I should change my business card to COO and head landscaper. But it's fun, it is only twice a year."

Aneli notes that her past experience both at the Metro Atlanta Chamber of Commerce and in airport planning has underscored how important she believes community relations are.

"It is much easier to kill a project than to build it. So if you involve people early on, are transparent, have a high level of accountability, and communicate with people, you can do a lot more than operating in secret."

Aneli's environmental background includes water quality, water supply, air quality, and solid waste management. These perspectives inform her work at the Museum as well.



Photographer/Artist: © Panorama Ray Herbert III



"After helping other companies become green, to make sure the museum is as green as we can be is a financial challenge. But waste is lost profits.

"I realized doing policy work for 10 years that you cannot get very far unless you have an educated public. Our mission here at Fernbank covers two salient topics of our time: how people affect the environment and how the environment affects people. We bring kids, and students, and schools, and families in, to teach them what are non-native invasive plants, what you can do about them, what are native plants, and the benefits of them. The South is like an urban jungle here, especially in Atlanta, and these non-natives have really 'put a hurtin' on us.' They go back and tell their principal they are going to form a club to clean up the back forty of their school because it is covered in kudzu, and ivy, and honeysuckle, and wisteria, and they know now that this is bad. They are going to plant natives back there and they are going to make a difference."

Given Aneli's environmental policy background, she has thought a lot about sustainability initiatives in the context of both Museum operations and renovations. "This building is right on the edge, just before the standards came out. They built us a glass house, for goodness sake. Sometimes I feel like we work just for health care and electricity and that's all. But to retrofit is the most expensive way to go about that. I fear that the recommendations would be just so astronomical."

Instead, Aneli remains mindful of sustainable goals when it comes time to make necessary replacements. Roofing and lighting are two examples common to most organizations. "As we go, we try to look at a white membrane versus a dark membrane. Lighting, absolutely. If I had the luxury of having \$25,000 to retrofit the ballasts all now I would do it. But I don't. So it is \$1,000 at a time, when we can, when they go out."

The reach of Fernbank Museum's collections continues to expand. In 2004, the Museum was designated to receive the St. Catharines Island Foundation and the Edward John Noble Foundation Collection, artifacts uncovered during some 30 years of archaeological exploration of St. Catharines Island off the coast of Georgia conducted under the direction of the American Museum of Natural History. The find included items ranging from the prehistory of the Americas 5,000 years ago to the remains of Santa Catalina de Guale, a Spanish mission founded on the island in the 1570s, some 150 years before the arrival of James Oglethorpe and the English colonization of Georgia. What does such an amazing acquisition mean in physical terms? Some 900 boxes with more than one million precious artifacts to catalog, store, preserve, interpret, and display.

For a cultural institution with its roots literally in the Georgia forest, Fernbank shows an enduring curiosity about what can be learned from the state's outdoors. The Museum has recently been active in the exploration of possible penetration farther into Georgia by Spanish explorer Hernando de Soto than previously known. The ongoing investigation of this theory was the subject of the Museum's recent exhibition: *De Soto's Footsteps: New Archaeological Evidence from Georgia*.

"We found in the Vatican files mention of another mission, upriver, that had burned down but that did exist. We wanted to find it, the old lost mission. We had a team of archaeologists go down there for three summers, and they found a Spanish settlement. We were very excited because we thought we

found the old Spanish mission. The problem was that the artifacts were too old by about 100 years, so it could not have been the missionaries. It's too old! That is a great problem to have," Aneli chuckles.

"It didn't make any sense, unless de Soto went up a different path than the scholars had previously thought. Now we are starting to rewrite the history books and push that path even off course slightly. There is not universal agreement. We are pretty certain it was de Soto, or if not de Soto, then some of his crew who had a mutiny and they went up river."

What could serve as proof? Pig bones. De Soto is believed to have been the first explorer to bring pigs to the new world as a source of nutrition. "We need to find some pig bones, and then we know de Soto was there," Aneli projects. "That is the big key."



Photographer/Artist: © Fernbank Museum



Photographer/Artist: © Fernbank Museum



What might a small institution, one with a similar mission like a museum or educational institution, or an institution in another field, learn or take away and apply from Aneli's experiences? This question causes Aneli to reflect on the pathway to Fernbank's accreditation by the American Association of Museums (AAM), a distinction held by less than five percent of museums across the country.

"We got accredited in 2003. We learned so much through the process. But they called us back and said, 'We have been reading over your materials, and I think we got something wrong here. This can't be.' And it was on our earned income versus unearned income. We are a very young institution, 1992, unlike the American, the Field, and others that have had years to build an endowment. We don't have an endowment to speak of. Ninety percent of our income is earned." This counts paid admissions, memberships, and event rentals.

"It is good and bad," Aneli reflects. "We get no government funding. No one can yank that away from us. Without having government funding, we don't have to worry about government taking that away. When the stock market tanked, we didn't have an endowment, nothing to lose. If you don't have anything there is nothing to lose, so we didn't have to lay off any staff.

"Would we love to have a large endowment? Absolutely. It is just taking us a long time because there are so many needs here now. We have been in the black for 13 years, every single year since we have been here. We need to raise \$25,000 every single day to keep the doors open. We work really hard

for our money. And that is very exhausting. So it feels like a nonstop treadmill. AAM said, 'You need to switch that around.' We'd love to. But it will take some time.

"I would tell a smaller museum to work on their unearned income percentages, so that they don't have to work so very hard every day."



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Note: The personal interview in this paper was edited for content and space. Quotations otherwise unattributed are taken from public print or Web-based communications of Fernbank Museum of Natural History and are used here with permission. The author would like to acknowledge the contribution of Tim Carssow of Kilpatrick Stockton LLP in the development of this article.



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