

THE GREAT OUTDOORS



Paging Back in Time

SNJ Today exclusive takes you on a sneak peek visit to The Edelman Fossil Park and Museum.

By J. Morton Galetto, CU Maurice River

If you aren't yet aware, a world-class museum is coming to southern New Jersey and is anticipating opening its doors in March, in Sewell, NJ. It has been named for the Edelmans, benefactors who helped launch the \$73 million *Edelman Fossil Park & Museum (EFM) of Rowan University*.

My husband Peter and I accompanied Karla Rossini, the Director of CU Maurice River, and Julia Wiberg, CU Program Coordinator,

to the EFM where we met our friend Nick Sena, the Museum's Director of Community Development and Partnerships. Nick greeted us in the parking area where we began our tour of the 123-acre grounds and building.



Nick Sena, museum's director of community development and partnerships, greets Karla Rossini, the Director of CU Maurice River, and Julia Wiberg, CU Program Coordinator, to tour "one of the most anticipated museums in the world," Smithsonian Magazine – the Edelman Fossil Park & Museum (EFM) of Rowan University. Photo: J. Morton Galetto.

The building is flanked by two inactive marl quarries.-One abandoned mine creates a small lake and the other a large primarily-dry pit. Rowan is cobbling together properties such that the university campus and the museum's property may someday have a linear connection. The university

president even envisions autonomous carts to transport students between the two campuses.



Ennead Architects have designed the soon-to-open Edelman Fossil Park & Museum (EFM) of Rowan University. Striking in its appearance it is likely the nation's largest zero-net-carbon museum. The firm's designs have won numerous prestigious recognitions. (photo EFM).

There is also a free public playground complete with trails to explore and with a geometric tetradactyl-like climbing feature. Running and nature trails are throughout the wooded part of the property.

Standing near the entrance, Nick explained that 66 million years ago we would have been roughly 30 feet under water, as he pointed to the nearby treetops. Put differently, where we were standing was once sea bottom.

He pointed to the drier of the two pits and explained, "This is the only place in the world that has fossilized evidence of an entirely collapsed ecosystem from an asteroid strike." Now he had my rapt attention. The asteroid marked the incredible moment 66 million years ago when the "Fifth Extinction" took place, during the Cretaceous period. This catastrophic event ended the reign of the dinosaurs.

Forty feet beneath the Sewell quarry lies a six- or seven-inch layer of iridium, an element found almost exclusively in asteroids and comets. Within this layer paleontologists have identified 100,000 fossils representing 100 different species: a diverse assemblage, evidence of a massive death event.

Nick went on to explain that the second-best evidentiary site is in South Dakota, where a mound of paddlefish was unearthed, involving only the one species. Furthermore the southern New Jersey region represents some of the richest paleontology sites on the planet. One mile from the museum's entrance in Mantua, in Ceres Park, a tyrannosaur - a *Dryptosaurus* - was unearthed in 1866. (T-Rex is but one of over 24 species of tyrannosaurs thus far

identified). This was the first tyrannosaur discovered.

In 1858, some 13 miles from the entrance, the first nearly complete fossilized skeleton of a dinosaur, a *Hadrosaurus foulkii*, was discovered in a marl pit on the Hopkins farm.

Upon entering the 44,000-square-foot museum there is a gift shop, Darwin & Co., adjacent to the Quarry Grounds Café, which features EFM's own roasted coffee. Both are accessible without admission. Their coffee bears labels such as Prehistoric Power or Tidal Titan Roast, complete with dinosaur artistry. The gift shop has an alcove that features a Darwin's library motif. The merchandise focuses on sustainable products.

Also within this cluster of pre-admission venues is a multipurpose theater. Its 138 seats are tiered and retractable, similar to bleachers but with folding seats. Here films can be shown to school groups and other visitors. The retractable seating offers the museum the flexibility to host catered events and symposiums.

We proceeded outside on a viewing deck adjacent to an outdoor lecture space, where we could further appreciate the building's placement and architectural elements. The

viewing deck allows you to overlook the famed four-acre fossil pit, where visitors will be able to dig for fossils, have them identified, and participate in authentic scientific discoveries.

When you return to the building you can view the building's exterior more fully. Famed KSS Architects used a "camera obscura" stylization that for me evoked a diorama-like box looking both inward and outward.



The striking Radiata pine framing this window invites the visitor inward, and from the interior it becomes an expansive view like a "camera obscura" or diorama. Photo: Author.

The building incorporates a renewable resource of radiata pine, a Californian,

Mexican, and New Zealand species. The lumber undergoes a process known as *acetylation* that makes it the world's most stable wood – Accoya™. Accoya boasts enhanced durability and color. Its use was effective and stunning.

Efforts at sustainability abound. The windows are etched using a spiderweb of ultraviolet blue that birds perceive and people do not. From the outside, looking across the surface, one could nearly make out a pattern, which will prevent birds from colliding against it, but from the inside it is not visible.



The plantings on the grounds adjacent to the building are all native, with each having a Cretaceous ancestor. On the larger 123-acre campus all future plantings will be native as well. In the EFM Hall of Hope signage acknowledges: "Lawns are the nation's largest irrigated crop. Yet, for the most part they are biodiversity deserts. But good news! With some very easy steps, it's easy to turn your yard into a sanctuary for wildlife." Photo: J. Morton Galetto.

Concrete on the building's exterior was formulated to give off fewer greenhouse gases. Under the parking lot are 72 geothermal wells for heating and air-conditioning the building. EFM may possibly be the largest zero-net carbon museum in the nation.

Next is perhaps the most anticipated "reveal" in the history of southern New Jersey, enabling the visitor to step 66 million years into the past.

A film display introduces people to the concept of eons of time using the analogy of a 1,000 -page book. Dinosaurs appear with 49 pages remaining and homo sapiens appear on the last line and human civilization is the last word. Through this analogy the visitor gains the insight that without the knowledge of what has come before us, we can have little understanding of life on Planet Earth and the larger reality that preceded us. It offers context to our existence so we can learn how to protect the future.

After you have viewed the movie you are invited into an immersive experience walking through one-of-a-kind galleries featuring full-scale dinosaurs. These exhibits are divided into three themes: Dinosaur Coast, Monstrous Seas, and Hall of Extinction.

New Jersey's most important dinosaurs are represented in life-sized sculptures of a *Dyptosaurus aquilunguis* attacking a young *Hadrosaurus*. *Aquilunguis* is a species of tyrannosaur whose name means "eagle-taloned," referring to its deadly 8-inch claws. Its discovery in Mantua Township helped paleontologists to revise their concepts of dinosaurs and recognize them as agile, energetic, and capable creatures versus lethargic, lumbering lizards.



*New Jersey's most important dinosaurs are represented in life-sized sculptures like this *Dyptosaurus aquilunguis* attacking a young *Hadrosaurus* (photo EFM)*

The sculptures throughout the museum are crafted by Gary Staab, considered one of, if not "the," world's finest paleontological artists (see box). The sculptures seem

capable of walking right out of their masterful habitats, with dioramas crafted by Dixon Studios of Tucson, AZ. I have visited dinosaur displays all over the world in major museums, dinosaur parks, botanical gardens, theme parks, and the like but never before have I seen such lifelike models. Nick explained that some other organization's exhibits try to make their replicas more cartoonish, in an effort not to scare children. But EFM's team of paleontologists wanted these models to be as accurate as possible, based on the latest scientific knowledge.

For tykes there are displays beneath the habitats especially adapted to their height for their appreciation.

While we were touring sound engineers were working on the broadcast system, so sound- or scent-scapes were not activated on our walk. Yes, they actually plan to use scent technology to have the coastal and sea sections smell like their habitats. EFM wants their experience to have immersive qualities.

A mosasaur is suspended from the ceiling. Lights are projected onto its belly giving an effect of shimmering water and forward movement. The lifelike eyes make it feel as if it could swim over top of us. Nick remarked that the plethora of mosasaurs that paleontologists estimated to be in the region

during the Cretaceous period made it likely that one, if not many, once swam in this exact spot!



Illustration - from EFM press kit.

The final aspect of the dinosaur display hall is focused on Global Warming and extinctions. The display area concludes with a room projecting films of people from around the globe who are making a difference in the health of Planet Earth – or – HOPE.

Each visitor gets an Explorer Pass which allows them to track what they have accomplished. The keycard can be activated at posts throughout their visit, enabling a host of other features. It includes elements of a scavenger hunt. Ultimately it allows them to connect to their personal computer so they can continue their museum experience online at home.

Next we explored the lower level. Here there is a hands-on Discovery Forest that will feature TED Ed, which are essentially abbreviated TED Talks. (Reminder: TED stands for Technology, Entertainment, Design.) This area is set up for people to further their learning depending on the group and its composition. The furnishings can be rearranged and there are a number of illustrations to provoke additional discussion.

In the Discovery Forest the museum's founder, visionary, explorer, and paleontologist Kenneth Lacovara (see side bar), joined us. He is responsible for numerous paleontological discoveries around the world. Nick characterized his "super power" as being able to take difficult scientific concepts and make them understandable to the general public. Ironically, he travelled the globe to find a layer of iridium that would offer proof of the

asteroid strike that changed the planet, only to discover one right in Mantua, New Jersey. (Lacovara grew up in nearby Linwood.)

A Critter Cove hosts live animals that reflect back on the upper level's concepts. For instance, rats run in clear tubes overhead. They are similar in size and shape to the mammal that is thought to be our original ancestor. A tank will house a living fossil, our famed horseshoe crab. There will also be coral in another tank. A large glassed enclosure will have a monitor lizard that might evoke the idea of dinosaurs.



View of the quarry from the observation deck. Here visitors can get their hands dirty by digging for real fossils, unearthing clues to the ancient past and experiencing the thrill of discovery. Photo: J. Morton Galetto.

Finally a barren room will be equipped with sensations to heighten a Virtual Reality experience. Provided with VR goggles, the users will stroll in a world projected inside their eyepieces. When they see images of waterfalls a mist of water will help make the experience more believable. And it is likely that a dinosaur might walk right past them.

Many of you may know I'm a huge fan of scat because it gives definitive evidence of animal presence. DNA in scat tells scientists a myriad of things about the inhabitants on-site – details like species, individual, range, health, and more. On display are *Coprolites* or fossilized dinosaur droppings. It just doesn't get better than this! In fact the museum is filled with "Good Scat," intended as the highest of compliments.

The Edelman Fossil Park & Museum of Rowan University is expected to open its doors in March 2025. Due to its anticipated popularity people should plan their admissions far in advance.

Since the discovery of dinosaurs people, and especially youngsters, have been enthralled by them.

Meet: Kenneth Lacovara

Founding Executive Director of Edelman Fossil Museum
Explorer/ Paleontologist/ Author



Kenneth Lacovara has unearthed some of the largest dinosaurs ever to walk the earth, including the massive 65-tib Dreadnoughtus, which appeared in the recent film, Jurassic World: Dominion. He is a recipient of The Explorers Club Medal, the highest honor in explorations, previously awarded to pioneers such as Sir Edmund Hilary, Jane Goodall, and Neil Armstrong. His TED Talk has been

viewed by over five million people, and his book, Why Dinosaurs Matter, published by Simon & Schuster, is a winner of the Nautilus Book Prize. Lacovara's discoveries have landed him three times in Discover magazine's 100 Top Science Stories of the Year, and he has appeared in over 20 television documentaries. He founded the Green Jobs Academy, which helps workers retool for careers in green energy and other sustainable fields. He is the founding former Dean of the School of Earth & Environment at Rowan University, and is the founding executive director of the new Edelman Fossil Park & Museum, called by Smithsonian Magazine "one of the most anticipated museums in the world." Since 2022, he has served on the board of Colossal Biotechnology, a CRISPR-based company endeavoring to resurrect the woolly mammoth and other recently extinct species. (source: Press Kit provided by EMF)

Meet: Gary Staab

Paleosculptor



Gary Staab/Staab Studios produces natural history and prehistoric life models for museums, publishing, and film. Staab has a degree in Art/Biology and interned at the Smithsonian Institution and the British Museum of Natural History. Staab's work and eclectic studio demonstrate a flare and passion for natural forms both past and present. He has created sculptures for National Geographic Magazine, the Carnegie

Museum of Natural History, the America Museum of Natural History, the BBC, and the Discovery Channel among many others.
(source: Press Kit provided by EMF)

Lacovara to Speak At CU Event



Each year CU Maurice River does a series of fieldtrips for youth and adults that explore aspects of our region's natural and cultural history – the treasures of Down Jersey. For 2025 we are origin-oriented, focusing on paleontology and inspired by the opening of a world-class museum in our area! One of the programs will

involve CU's hosting of museum-founder Kenneth Lacovara, speaking at the Merighi Savoy Restaurant in East Vineland on Thursday June 19th, 6:30 p.m. For more details email: info@cumauriceriver.org