

# ENGAGING WITH NATURE

- *Forces of Nature at Arizona Science Center*
- *Audubon Insectarium*



by Anna Huddleston

## Forces of Nature at the Arizona Science Center

On a recent afternoon, a crowd of first-graders giggled and squealed as the floor rocked in a simulated earthquake in the Forces of Nature gallery at the Arizona Science Center in Phoenix. As difficult as it sometimes is to captivate the short attention span of today's learners and help them understand and get excited about science concepts, the new gallery succeeds at doing exactly that.

Forces of Nature aims to interpret the power and complexity of the natural forces of Earth for students of all ages. Creating an exhibit that meets the expectations of increasingly tech-savvy younger audiences is a challenge under any circumstances. Achieving it in under \$1.7 million calls for serious innovation.

The concept for the exhibit was developed by Dr. Art Sussman, a national expert in science education and author of *Dr. Art's Guide to Planet Earth*, in collaboration with the Science Center Guest Experience staff. With much of the experience geared towards students, it was important to incorporate the appropriate materials and translate them into hands-on demonstrations and expert sessions.

The centerpiece of the gallery is the Immersion Theater, where during a five-minute show, visitors find themselves in the middle of extreme atmospheric and geological events, such as a hurricane, tornado, wildfire, volcanic eruption and monsoon. As guests instinctively shield themselves from simulations of pounding rain and objects thrown into space by the wind, the multimedia system delivers immersive video

montages using multiple screens, surround sound, and a motion control floor system.

Surrounding the theater is a multi-sensory, three-part exhibit zone focusing on land, water and air. Designed and produced by BRC Imagination Arts, it plunges visitors into the epicenter of the action to see, hear and feel the natural processes that constantly reshape our world. At the Magic Planet, guests get to interact with a five-foot digital globe that has a 360-degree image displaying the weather patterns for the past six weeks. The Lava Lab provides a glimpse into what is behind a volcanic eruption, while Eggectional Pressure translates the physics behind the concept of pressure into engaging live demonstrations. Experiment with liquid nitrogen? Feel free to explore how the temperatures affect matter. Witness the metamorphosis of rocks? Enjoy the interpretive display.

"Creating drama was the first priority for us," says Tisa Poe of BRC Imagination Arts. "It's fascinating how theatrical experience takes over the gallery and visitors feel how science is all around them." She observed that the exhibit helps both parents and their children engage in conversations about science and go through the process of dual learning while bonding.

Arizona Science Center President and CEO Chevy Humphrey is also pleased with the final result and the fulfillment of the Center's mission. "To inspire, educate and entertain visitors of all ages about science is our primary goal, and the Forces of Nature gallery is a stunning example of how we have adapted to the ever changing needs of our guests while at the same time providing a relevant, entertaining and educational experience for them," she says. "And the gallery design process was a true collaboration."



TOP: Forces of Nature at Arizona Science Center. BOTTOM: Audubon Insectarium



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## Insectarium at the Audubon Nature Institute

If not for the real forces of nature, the Audubon Insectarium, part of the Audubon Nature Institute in New Orleans, would have opened its doors years sooner. Hurricane Katrina struck as installation was about to commence, and the exhibit components went into storage for some time before the attraction triumphantly opened last spring.

A plate of fried crickets? Coming right up! What might sound like a juicy episode of Bizarre Foods is actually part of the immersive learning experience at the Insectarium. As visitors snack on fare that used to hop and crawl, silkworms go about their day inside the glass tables, live bass coexist in symbiosis with live bait, and giant cartoon bees buzz past visitors in the 4D theater. Who said bugs are gross?

"Over 90 percent of our first-time visitors have never held a bug. So a lot of this is about breaking the barriers, chipping away at phobias and getting people drawn into the subject matter," says Steven Dorand, vice president of design and exhibitry for Audubon Nature Institute.

The Insectarium is said to be the largest free-standing museum in the United States devoted to some 900,000 species of insects and their relatives.

With more than 50 live exhibits and numerous multimedia and sensory elements, the experience encourages interaction with the species, putting a magnifying glass on their tiny, and not-so-tiny, complex worlds. It provides a new perspective on insect life within a capsule of interpretive learning and entertainment. "Everything in the building had to be alive and actively participating within the visitor experience," notes Dorand.

The museum takes up 23,000 square feet of the historic U.S. Custom House on the Canal Street, which posed both a challenge and an opportunity to the designers. "The grand lobby, for example, is constructed of classic materials, but we had to kick it up a little," Dorand says. The design reflects New Orleans sensibilities. "We are used to taking design elements and adding different ingredients," says Dorand. "That's what our food and music are like here."

Visitors take their first steps into the bug world in the Underground Gallery, where they are surrounded by giant, animatronic insects and oversized exhibits, creating something of an Alice in Wonderland effect. "Here we have to shake them up a bit," Dorand says. "This is a 100x environment, with huge spiders jumping out of traps and 10-foot long worms finding their way through dirt. People laugh and by the time they leave here they are ready for anything."

After the first dose of skin-crawling thrill, the journey continues to terrain familiar to locals, such as the Louisiana Swamp and the Termite Gallery, where visitors find themselves in entire reconstructed habitats and can draw parallels with their own experiences. According to Dorand, this zone is all about the kind of storytelling that comes of coexistence with the area's unique environment and wildlife, for instance a grandparent or parent recounting "the time they caught the giant bass" or "found the alligator in the back yard." The "close encounters" theme is transformed at the Japanese Garden, where hundreds of live butterflies touch visitors with their beauty (and their furry feet). Just a few steps away, the Metamorphosis Gallery showcases a working husbandry lab where insects' entire life cycle is depicted for the live audience.

Designed to engage a wide demographic, the museum invites visitors to explore and learn at the level where they are most comfortable. While parents might seek out in-depth information accompanying mounted exhibits, children can explore through physical contact with the insects as well as through computer-based interactive displays. "Layers and layers of storytelling are put in place so that everybody in the family has a good time," says Dorand. "We employ a lot of electronic media, and programming is constantly evaluated to match with where the audience is going. It has to be a living facility and it has to be constantly changing."

The culmination of the experience is the *Awards Night* presentation at the 4D theater, where as Dorand puts it, "the theater has fun with you." A custom multimedia adventure in which animated insect characters on the big video screen are voiced by Jay Leno, Joan Rivers and Brad Garrett, *Awards Night* takes visitors to a red carpet event that's all about the bugs. The experience is enhanced by special in-theater effects and animated seats. So as a family of bees buzzes by and lands in a meadow, visitors too can smell the flowers and get an occasional ping.

"It is about constant playing with your imagination," Dorand says, "and about the perspective it brings to our own world."

