# Three Decades of Hands-On Science

**By Sue Smith-Heavenrich**

Thirty years ago an idea was born: to create a place where children and their families can engage in science. After a bit of planning and scouting, the perfect location was found—the site of the old sewage treatment plant for Ithaca.

"It took a lot of imagination to figure out how to make it into a children's science center," executive director Charles Trautmann said during a recent media tour. Building the museum also took a lot of volunteer labor. About 2,200 people donated their time, talents, hammers and nails in an effort that looked a lot like an old-time barn-raising. Once the exhibits were moved into their new home, the building remained essentially the same until 10 years ago, when the final phase of improvements was completed.

On March 2 and 3, the Sciencenter celebrated its milestone anniversary with a weekend of special activities and programs. Children played with nanotechnology, touched animals living in the salt water tide pool and checked out thermal imaging. There was a special program showing where new exhibits come from, an opportunity to observe animals at mealtime and lots of time to investigate the exhibits.

Over at the "Watergates," a sloped water table with gates that change flow, children raced rubber ducks. The exhibit, built by a class at Cornell, has depth that allows many levels of investigation, including the occasional adult who wants to play with hydrology. As if to underscore the multiple-use aspect of exhibits, students from Cornell's Early Childhood Cognition Lab conducted studies with preschoolers.

Photo Sue Heavenrich

**Ali Jackson encouraged children to explore the nanotechnology exhibit at the Scienenter's birthday celebration.**

Upstairs, past the honeybees, staff member Ali Jackson encouraged children to play with the nanotechnology exhibit. Nanoparticles are tiny—a nanometer is one-billionth of a meter. "A good metaphor is to compare the size of a marble to the earth," she said. Size matters. To explore that, children investigate the behavior of iron particles of different sizes, from shavings to filings to nanoscale ferrofluid.

The Discovery Center offers space to spread out and investigate surface tension, fingerprinting, electricity. There are a couple dozen discovery kits to choose from. Each kit has the materials needed to conduct a few experiments, and some leading questions, such as how many drops of water can you fit on top of a nickel?

The 30th anniversary weekend kicked off a year of celebration that promises to include more special programs. This year also kicks off a new initiative for the Sciencenter. "For the next five years we'll be focusing on how we can improve the science education in our community," Trautmann said. Currently the educational programming is aimed at elementary-aged children from five to 11. That doesn't mean that younger (and older) children don't have any fun exploring the interactive exhibits. They do. But starting this year, the museum plans to create new programs specifically developed to reach preschoolers and middle school students.

In the case of preschool programs, that means developing ways to help parents become more attuned to science and how their youngster learns and discovers the world around him. Middle school students, on the other hand, are ready to explore science more independently. Some ideas include community research and "citizen science" projects, an expanded "junior docent" program in the museum and field trips. Trautmann sees an opportunity for the Sciencenter to work with the local schools, perhaps providing curriculum materials or other support. He pointed to the inflatable Star Lab planetarium as a successful example of connecting with schools.

The Sciencenter's mission is to interest children in science and also give them a basic science literacy that will empower them to use science to shape a better future. Unfortunately, the state of science literacy in the nation is "pretty dismal," says Trautmann. Not only do schools tend to teach science as a collection of facts, but in some states school boards still argue over questions like evolution and climate change—topics that are accepted by the scientific community.

"The important part of science is inquiry-based," Trautmann said. "And that takes equipment and time." Without the constraints of curriculum or testing, the Sciencenter can do things that schools can't. "Nobody flunks a science museum," he jokes. Can the Sciencenter help schools do that kind of science? Trautmann hopes so, because kids who visit the

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Sciencenter have a better attitude about science.

Every few years the Sciencenter surveys high school seniors—students who probably haven't visited the museum since they were 11 or 12. Responses come from Ithaca High School and four other high schools in Tompkins County. More than 95 percent of seniors remember their Sciencenter visits as "fun" and 40 percent credit those visits with an interest in studying science in college.

"Forty percent is great," said Trautmann, "but we want to do better. We want every kid to have the tools of science no matter what they end up doing with their lives."

Find out more about the Sciencenter and this year's Anniversary programs by calling 272-0600.

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