



## Where To Discover The Art Of Science

By Abby Russell

**WHAT YOU'LL FIND:** *The New York Hall of Science located in Flushing Meadows-Corona Park is New York's only hands-on science and technology center. It was originally built as part of the 1964-65 World Fair as a Science Pavilion and intended for permanent use as a museum.*

*Like many public projects in New York, the Hall of Science bears the fingerprints of master city planner Robert Moses. Moses wanted the science museum to be the 'finest in the world' — to stand at the forefront of science and technology education and be a place that would teach young people about how science and technology works — with the more than 225 exhibits are interactive and designed to be touched.*

*And after a somewhat tumultuous beginning, the Hall of Science as we know it today truly lifted off — like one of its*

*majestic, restored rockets that gleam in its rocket park — in 1986. That year the museum opened its doors to countless visitors, with a current rate of about 275,000 every year. Many of these visitors are school children on class trips.*

*The Hall of Science is currently in the construction stages of a major expansion that will amount to 55,000 square feet of new exhibits, learning and teaching facilities and the jewel in the crown — the highly anticipated Hall of Light.*

*Designed by James Stuart Polshek, the architect who designed the Rose Center Planetarium at the Museum of Natural History on Manhattan's Upper West Side, the Hall of Light will be a seven or eight thousand square foot space that reflects and refracts light.*

Why is the sky blue? Why does the sun give off light? Why do leaves change color in Autumn? These are things we take for granted, but how many of us think to ask the questions or can explain the reasons why?

The staff at the New York Hall of Science (HOS) can tell you the reasons. The exhibits and museum staff members break down seemingly complex explanations into something even a pre-schooler can understand.

"I like this science museum because you can touch a lot of things," said Angelika, 10. "Mostly everything here is fun, because you can touch things," she continued. Her mother, Wanda Arroyo, chimed in, "They're learning a lot because they get to experience — it becomes realistic."

Preeti Gupta, Director of Education at the HOS, said "We aim here at the Hall to make life-long learners, to ignite curiosity, to give a few moments of 'a-ha,' so they can say, if I figured out this, I can figure out something else."

"Science has the potential to make us wiser," said Dr. Alan J. Friedman, Director of the HOS. "It gives us tools which we can use wisely or not so wisely. Ignorance almost inevitably leads to bad things."

"If you can learn to think critically via science, then you can apply it to other mediums, like art or business," said Gupta.

Gupta's career at the Hall began when she was just in high school and needed a few extra dollars. She joined as an "Explainer" in the Science Career Ladder program, continued that part-time through college and has been working her way up ever since.

After college, Gupta took a full-time job of instructor at the Hall and within a month realized she was doing "exactly" what she wanted to do for the rest of her life. As director of education, Gupta's job encompasses running the Science Career Ladder and its Explainer program.

In a 2001 evaluation of alumni explainers, over 50 percent went into careers in education, science and technology or museum work. According to the HOS, the Science Career Ladder and its Explainer program have been used as a national model for recruiting, training and employing high school and college-age students in preparation for teaching and science careers.

"It was just a job initially, but now I'm more interested in

science," said Iboun Morrison, a 21-year old who works as an Explainer while finishing college.

An Explainer's job is to interpret exhibits and conduct demonstrations for the museum's visitors. Much of their time is spent explaining science to the kids who visit with their school groups. And for those kids, "part of the experience is seeing who's in charge of science and technology," said Dr. Friedman.

On the main floor, a science demonstration is underway. An Hispanic teenage girl is wearing a red apron – the clue that she's an Explainer – and an ear-to-mouth, wraparound microphone.

She rallies the roughly 10 children and some parents for a science experiment showing how a flammable substance can engulf a rag in flames and still not burn the rag to bits.

"Are you ready?" she asks.

"Yeah!" the kids half-heartedly respond.

Realizing this crowd of five to 13 year olds will need more coaxing, the Explainer uses humor. As she puts on large, green goggles in preparation for the science demonstration, she jokes, "These are the latest in fashion." Now the kids are laughing and paying attention to the experiment.

"Science and technology doesn't appeal equally to boys and girls, men and women," Dr. Friedman said. "People of color are under-represented in science and technology," he continued.

"Suppose you're a Hispanic girl of eight-years-old, and you don't know what you want to do when you grow up," Dr. Friedman said. "When you see women here who are in charge of science... it becomes an option for you."

Perhaps the greatest contribution of the Hall of Science to science is teaching and educating. HOS teaches kids, teens, teachers and even parents and grandparents. Through various programming, HOS reaches out to all of these constituent groups to make science understandable and fun. Besides students on class trips and children visiting with

their parents or grandparents on weekends, the Museum serves even more people via its website and the many teachers who use the programs.

One fifth grade teacher thinks the Museum itself provides a vital service to her students. Meridith Volkena, a teacher at Manhattan Christian Academy in Inwood, is chaperoning her class trip.

"It's really neat that it's hands-on – they're active and going non-stop, but they're learning as well," said Volkena.

One of her fifth graders, Matthew, 11, is having the time of his life and breathlessly describes his experiences. "The playground has a bar that goes back and forth, and it's actually energy," said Matthew. He continued, "The water – every time you turn the wheel, you're learning about how to recycle water."

Matthew's ability to describe what he's learning proves the value of his HOS experience. And for Dr. Friedman, watching kids like Matthew experience science is among the greatest joys of his 19-year tenure as Museum Director.

Dr. Friedman always smiles to himself when a museum visitor turns to a friend and says excitedly, "Come here and look at this!" "If visitors feel they're having an experience sufficient enough to interact, then I know it's having an impact on them."

The folks at the HOS will have you believe that science is about life. And for one staffer at the museum, science is about renewing life.

Stella Ronca has worked at the museum for 26 years, first as a volunteer and currently as Executive Assistant to HOS Director Dr. Friedman.

Now, Ronca is 88-years-old but as spritely as ever.

"I came here during the World Fair in '64-'65, and I loved the Fair. In '77, my husband died, and I came to volunteer," said Ronca. "It changed my whole life, because I became useful again."