

Roving Astronomy Program Takes IT on the Road

A bright new planetarium is on the horizon, but in the meantime, the Roving Astronomers are doing fine.

In February, when the Rauch Memorial Planetarium gave way to a new parking facility, University of Louisville's Scott Miller and Jann Hall continued bringing the stars down to earth for audience through the Roving Astronomer program, a part of Information Technology. The program, which has presented offsite sessions since the 1980s, takes many of the planetarium's lessons to audiences ranging in age from preschool kids to retirees. Mr. Miller, who is the program coordinator of the Roving Astronomer project, and Ms. Hall, who is an administrative assistant in IT, visit schools, camps and senior citizens' groups, explaining such celestial wonders as supernovas and space travel.

Without Rauch's multimedia facilities, the Roving Astronomers bring an armful of audiovisual support to a program. Time and weather permitting, observations take place, ranging from solar observations through vision-protective filters to under-the-stars night watches.

It's not just all pretty pictures, though. "You're in awe from the math and science end of it, how a star works," says Mr. Miller. "And at the esoteric level, the grand scheme and beauty of it all. When I hold my shows, I try to convey this to the kids." Still, he says, "knowing the constellations and the stories behind them—that's part of our culture."

Group sizes vary, with 35 to 40 observers being classified as a "smaller" group and hosted solo by Mr. Miller. One presentation does not necessarily fit all, either. "We customize a lot of these programs to the group," Ms. Hall says. She cites a recent invitation to her daughter's school.

"A hundred and 23 kids—we can handle it!" With these larger groups, both Mr. Miller and Ms. Hall preside, jointly answering a rapid stream of questions. "They're constantly asking questions, and we're constantly answering," says Ms. Hall. "We don't consider any questions silly."

How did Mr. Miller and Ms. Hall find themselves explaining the stars to students? For Mr. Miller, it was a natural progression. He had been working as a student lecturer at U of L while earning bachelor's and master's degrees in physics. "I got my initial experience at Rauch Planetarium," he says.

After five years as a student employee, he left U of L in 1982. After attending the University of Kentucky and receiving a second master's degree—this time in education—Mr. Miller returned to Louisville with the intention of becoming a high school math and physics teacher. Back in Louisville, he learned of an opening for a planetarium coordinator, which involved organizing and scheduling shows, presenting planetarium programs and interfacing with the media.

Ms. Hall, who has worked for U of L since she was a U of L geology student in the early 1970s, was working in the planetarium office. "About 1982, I had a group mysteriously show up—and I had no lecturer. I decided at that point I'd never be caught again." Besides her geology background, Ms. Hall also cites postbaccalaureate work in planetary education from the Spitz Planetarium in Philadelphia, her own storytelling skills and "patience" as qualifications for her assisting role.

As the space program constantly evolves, session audiences' curiosity remains high.

"When they see a telescope, they say, 'Is that yours? How much did it cost?'" says Ms. Hall. "They ask, 'Are you a professor?' or 'How long have you been doing this?' But at the same time, they're slipping in other questions: 'What is a star? What is a planet? Do you think there's life on other planets?' And then, 'Can we live on other planets? Do you believe in UFOs? Why haven't we found life on other planets?'"

Among Mr. Miller's responsibilities are the challenges of keeping current and translating current overheard events to the media when necessary. Thanks to the Internet and listerv groups, he has a leg up on anticipating some typical questions.

"We know what to anticipate, how to explain it, whether they need a telescope or not, where they can see it, what they can do to be prepared," he says of astronomical events in the news. He does, however, get caught off-guard at times. For example, he was among the last to know about the Challenger disaster in 1986, eventually hearing about it from his students.

Barring such catastrophes, Mr. Miller says, "the majority of celestial and astronomical stuff, we know well in advance before it becomes visible to the public." Events such as eclipses and comets "catch people's eyes," and he tries to incorporate such current events into his programs.

"If you don't have the background, you can't explain it. It's something that cannot be duplicated by somebody off the street."

Mr. Miller also teaches a 100-level undergraduate astronomy class and produces many of his own materials, such as videotaped productions. The planetarium is located under Instructional Technology/Instructional Support, and, to Mr. Miller, "one of the nice things about being in IT/IS is, you learn how to use the computer technology" to create presentations that go beyond mere pictures. One of the videos is of a rotating view of Pluto from the Hubble Telescope's website.

"The kids were thrilled to see what the Hubble Telescope saw, the same thing they saw on the nightly news." In his class he covers the history of astronomy from ancient times to modern explorations, with a bit of physics thrown in for understanding. "Light and gravity," he says. He also teaches HTML classes after having taken some short courses himself and making a page about the planetarium. "It's a way to advertise that doesn't cost us anything."

Ms. Hall works full time as an administrative assistant in the vice president's office in IT while keeping tabs on the worlds outside. In spite of her education and experience, she sometimes finds herself at a loss for answers—something she feels strongly about. "My pet peeve is, 'I don't know.' If you don't know, then find out!" One method she employs is research shared among the students and herself. "With kids, if they don't know, I say, 'Let's do some research. We'll compare what we find out.'" Ms. Hall also uses the same approach with her daughter, who turns nine in December. "'Let's go to the library. Let's look it up on the Internet,'" she says.

"I hate it when parents say, 'I don't know. I don't have time.' Find out!"

Mr. Miller is father to two boys, ages three and four. "They thoroughly enjoyed the planetarium. They do miss that. They like to go and see Daddy's stars." Besides the aesthetic considerations, however, Mr. Miller hopes that the planetarium program has two long-term fans even if they don't become professional astronomers. "I would like them to keep the thinking processes, the wonder of it all. We have no real hope of understanding everything that's out there. These greatest art pieces, on this great canvas"—his eyes grow

wide—"Wowwww. There's so much beauty out there. That's what I want to instill in the boys." And he himself is no stranger to this sense of wonder. Young Scott Miller discovered astronomy while involved in an interest in magic. "Astronomy, astrology, they're in the same general area in the bookstore," he says. "From the folklore, I found out that there are literal constellations out there—and left astrology behind."

Before the loss of the planetarium building, the Roving Astronomer program "wasn't utilized as much because most schools wanted the firsthand planetarium experience," says Ms. Hall.

Still, some elements of the original program may be translated to a classroom setting, and even wider arenas.

Mr. Miller's calendar is filling. The Louisville Free Public Library has approached him to give afterschool talks about the Hubble Telescope beginning in January. This month, he will present sessions in Salem, Indiana that will include observations, and a Star of Bethlehem program to a local parochial school. At many schools, the possibility of weekend evening observations is mentioned, but "with football season, the kids are playing football," he says. "And if they aren't playing football, they have an older brother who is."

Summertime is a good time. "Camps don't have the facilities for slides and video, but they're always a lot of fun," says Mr. Miller. Firsthand observations out under the stars for Boy and Girl Scout troops are perennial events. The scouts spend a couple of hours in dialogue with a real astronomer while they fulfill merit badge requirements—and pick up a few tales to bring back home. "I try to be the storyteller out from ancient days," Mr. Miller says of the folklore behind the constellations. As the year ends, his own young sons can already identify the moon, Jupiter and Saturn in the morning sky.

Of course, some questions keep coming up, and on the personal level, Mr. Miller and Ms. Hall have their own answers. Asked of Mr. Miller, "Do you think there's intelligent life out there?" he pauses and reflects. "Philosophically, you ask: Why create a universe if we're the only ones to enjoy it? From the astronomical perspective, though, you know that planetary formation is a natural process of star formation, and if the conditions are right, temperature is right, light is right...who's to say? You have to define 'intelligent,' you have to define 'life.' There are things living in places we'd never consider going. There's stuff thriving in sulfuric acid, in the canals of the ocean floor." With all this being just right, would extraterrestrials come calling on their earthly neighbors? "I don't think they're calling on us for a weekend trip."

Ms. Hall would like to take up an opportunity to visit other planets herself, as many of her young students propose. "Yeah, I'd go," she says. "If I had the chance and things were right, if I had the chance to do something worthwhile. It would be fascinating. I'm not afraid of adventure."