SCIENTISTS IN EDUCATION AND PUBLIC OUTREACH

This profile is based on excerpts of an interview with Dr. Heidi Hammel regarding her involvement in Education and Public Outreach (EPO), specifically her participation in the "Live from the Hubble Space Telescope," program, a production by Geoff Haines-Stiles and the Space Telescope Science Institute (STScI) in Baltimore, Maryland. The interview questionnaire was conducted by Cherilynn Morrow (Space Science Institute – SSI) and edited by Christy Edwards (also of SSI in Boulder, CO), April 2001.

Current professional position:

I'm a Senior Research Scientist with the Space Science Institute (SSI) in Boulder, CO. I live in Ridgefield CT, and I telecommute to Boulder. My work is studying the outer planets in our solar system. My background is in earth and planetary science, and I consider myself a planetary astronomer.

Heidi's featured involvement in EPO:

I worked on a program called "Live from the Hubble Space Telescope." This was a production by Geoff Haines-Stiles and his company, and it was run out of the Space Telescope Science Institute (STScI) in Baltimore, Maryland. The production involved three TV shows. STScI designated three orbits of Hubble Space Telescope time to be used by school children.

In the first TV show, four different planetary scientists were asked to advocate a planet that the orbits should be used for. The students, who were distributed across the US, watched the show and they picked the planet (actually in the end they picked two planets). The second show was all about how we planned the students' observations and how we set it all up, taking input from the students. The third and final show was showing them the actual data that we got from Hubble Space Telescope. In addition to doing the actual live TV show, we kept daily journals (posted on-line) of what we were doing. These journals were not only by us, but by a whole variety of people who do behind-the-scenes work that you normally wouldn't think of - people who run Hubble Space Telescope, support people, etc. They were also doing journals so that the kids got a much broader picture of how science is done, rather than seeing only the mythical scientists with their white lab coat on doing the work. It gave them a much bigger understanding of how science really works.

Heidi's time commitment:

The TV shows themselves typically were two days in a month, because we had to go down to Baltimore, and there were three shows spaced out over a couple of months. I was also doing the journals, and I'd spend an hour or so twice a week on it. Once my planet Neptune was selected (Pluto was also selected, which was Mark Buie's planet; he's from Lowell Observatory), I spent a small amount of time planning the observations based on what the students told us they wanted us to do. So my involvement was limited, on the grand scheme of things, to maybe five or six days over a period of three or four months – not a terribly large amount of time – but a very high-profile amount of time. It was a big impact for the time investment.

How she got involved in this project:

I had done a lot of public outreach, and I had used Hubble Space Telescope to look at planets. I think they tried to find people who fit both of those qualifications. I think they also tapped people who they thought might like working with the children, because we actually did some hands-on work with the kids. This was not just a "watch a TV show" kind of thing, this was a real educational program where booklets of activities were designed for classroom teachers to use in conjunction with the program.

I personally was not involved in the development of the curriculum. I was brought in for a different point of view. This is a great example of how EPO programs have many different facets that you can be involved in. I didn't do any curriculum development – instead I helped the students do observations. There were other people behind the scenes, who weren't on camera, doing that kind of work. Those are the different kinds of things that one can do with EPO.

How Heidi balances research and EPO:

It's always a tough game balancing research and EPO because I'm a "soft-money" researcher. I'm only paid to do research; I'm not paid to do anything else. You really have to want to put in a few extra hours. I think that's important to do. It's part of our responsibility as scientists – to give back to people, to kids, and to the public. Through their tax dollars they support this work, so I make the time and create the balance. When I have to take time off from the research to make a film, or to do other EPO, I have to work extra hours on other days to make up for that.

Again, I try not to let the EPO get out of hand. I'm first and foremost a scientific researcher and this EPO work is completely voluntary. I do it when I can, and I try to do as much as possible, but at the same time**,** I find if I'm not careful, I can be completely overwhelmed. I have to be very selective about what I do. I try to find EPO activities that have leverage. I generally try to find things that are big ticket, where I might be talking to a thousand people, or some projects where you're reaching out through television to hundreds of students, for example. Another way to reach a broader audience is to write articles or be interviewed for articles, or be involved in productions of programs that you know are going to reach a very broad range of people.

The biggest challenges to her EPO involvement:

The biggest hurdle is that it's not often perceived well in the research community. If you do a lot of this kind of work, people will think you're not taking your research seriously – you're more interested in doing Education and Public Outreach, and you're not a "serious" scientist. That's a problem, because it comes back to bite you at times when you've put in proposals for grants, and they say, well, how much is she really going to do on this research, and how much is she going to go off talking to TV cameras and school kids. EPO is not terribly highly recognized. There's a lot of lip service given to it, and I hope that the perceptions are changing – that it is becoming more highly valued; and that at the highest levels, NASA and NSF will recognize that EPO is and should be a critical part of the research that we do; and that there are many ways for scientists to do EPO besides give a talk or visit a classroom. I'm not fully sure that these ideas have percolated down into the rank and file yet, so there's a lot of education that needs to go on.

The most important positive impact she had on the "Live from Hubble" project:

I had an opportunity to be a role model to a lot of kids, and to me that's really important, to be demonstrating for students what scientists really look like and who they are. There are far too many misconceptions in the media about what a scientist is and what scientists do. Between myself and Mark Buie, we really set some good examples, showing that scientists are not people with white lab coats and thick glasses who can't speak in languages that people even understand. We're really down-to-earth people and I think that's a great message to communicate. It always makes me happy to know that I'm getting that message out. It's fun working with children, students – they just really love it. They were so excited about really using Hubble Space Telescope and that's always gratifying to know that they're enjoying that experience.

What Heidi got out of her participation:

When I do EPO and I'm working in front of cameras or giving public lectures, or in the classroom – I just have a great time – I think it's a lot of fun to do! In the case of Live from Hubble a purely selfish thing to say is that we got some data on the planet Neptune that is very valuable to our research, and we did in fact include this data in some of our scientific publications about Neptune observations with HST.

Heidi's words of wisdom to other scientists:

Not everybody has to do what I do. That's important for people to understand. Not everybody likes to be in front of a camera, or talking to kids, or giving public lectures. I like doing those things, but not everyone does, and there's a lot of other stuff that's just as important. Don't use me as a role model, because there are so many other things to do as well. For instance, somebody else did that curriculum development on Live from Hubble, and that was critical to the success of the Live from Hubble project. Much of that program was done over the Internet, so someone was doing web-site development for that – again, it wasn't me. A lot of scientists have excellent skills in that area. Don't be limited in your thinking of what EPO is by just a few examples. Get out there and find the things you like to do, and do them well, and do them for the people, and that will be a very great way to do successful EPO.