

PROFILES OF SCIENTISTS IN EDUCATION AND PUBLIC OUTREACH

This profile is based on excerpts of an interview with Dr. Gary Rottman, about his involvement in Education and Public Outreach (E/PO), specifically with the SORCE mission. Dr. Cherilynn Morrow (Space Science Institute – SSI) designed the interview questionnaire. SSI's Preston Dyches edited the responses in June, 2003.



Current Professional position and background:

Senior research scientist and Associate Director of the Laboratory for Atmospheric and Space Physics (LASP) at the University of Colorado. My research has concentrated on the development of ultraviolet instrumentation to study Earth's atmosphere, the Sun and the planets. I'm the PI for the SORCE (Solar Radiation and Climate Experiment) mission and the SOLSTICE (Solar Stellar Irradiance Comparison Experiment) instrument on UARS, and Co-Investigator on the TIMED SEE and SDO EVE experiments.

Description of Gary's E/PO involvement on SORCE:

There are a number of things we do to get the word out about the SORCE mission, including public talks, popular science articles, and tours of our lab. But my main role as PI is to ensure that we're spending our E/PO dollars appropriately and that I am supporting opportunities for my science and technical staff to make E/PO contributions.

In the area of K-12 E/PO, the SORCE science team partnered with the Science Discovery program at the University of Colorado to create an elementary school outreach program. They put together a hands-on teaching module called "Life and Light" about solar radiation. The module asks questions about how and why the Sun's energy output varies, and how this variable energy output affects our atmosphere. Students develop models and examine the role light energy has on Earth systems...and they have fun doing it. We have several scientists on staff who sometimes go along with the educators and are present in the classroom as a resource during the lesson.

Gary's time commitment:

It's an ongoing process. There's really no fixed pattern to what I do in E/PO. I occasionally do public talks and respond as a resource person when asked to contribute to E/PO endeavors. Our lab now has a new E/PO lead to help coordinate and increase the impact of the time scientists here devote to E/PO. Around the time SORCE was launched I gave a talk at Kennedy Space Center amid a flurry of news conferences, but of course that activity dies down after a while.

The biggest challenges to his E/PO involvement:

Time. We're all very busy, trying to get our work done and we simply have a limited amount of time to offer. It's much easier for us to do things like tours of our facility. When an elementary school teacher calls up to say they would like a tour, we jump at the chance.

It is also an ongoing challenge to explain clearly to the public, politicians, and program managers how vital it is to monitor the Sun's irradiance if we are to understand Earth's climate.

His greatest positive impact through E/PO:

Usually when I go out and talk to people about the Sun, I find that they're very interested in learning about it. Everyone has some interest in Earth's climate, and it's important that people understand the key role the Sun plays in that system. But perhaps my greatest impact is simply in advocating the involvement of my team in supporting a high-quality E/PO program funded by the SORCE mission. This includes the participation of about 30 graduate and undergraduate students who are being trained in mission operations, instrument calibration, and science.

What he gets out of his participation:

E/PO is part of the job, and I must say that it is probably one of the more enjoyable pieces of it. When you do it you find all these people are bright-eyed and eager and excited about what you do.

Gary's recommendations about E/PO:

It's very important to do this kind of work. Take advantage of opportunities that present themselves, including those that are out of the mainstream. For instance, when we give a tour of our lab to senior citizens, we find them both knowledgeable and quite interested.

SORCE mission web site:

<http://lasp.colorado.edu/sorce>