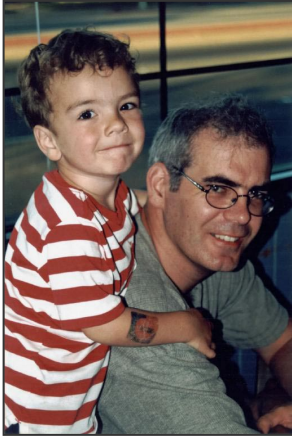


PROFILES OF SCIENTISTS IN EDUCATION AND PUBLIC OUTREACH

This profile is based on excerpts of an interview with Dr. David Alexander, about his involvement in Education and Public Outreach (E/PO), specifically his role in the Yohkoh Public Outreach Project at the Lockheed Martin Solar and Astrophysics Laboratory. Dr. Cherilynn Morrow (Space Science Institute – SSI) designed the interview questionnaire. SSI’s Preston Dyches edited the responses in May, 2003.



Current Professional position and background:

Staff Physicist at Lockheed Martin Solar and Astrophysics Lab. (LMSAL), Palo Alto, CA. I was educated through my PhD in Glasgow, Scotland (PhD in Cosmology) then switched to Solar Physics. I’m interested primarily in solar flares, coronal mass ejections and coronal heating. I’ve also been working on designing mission concepts using solar sail propulsion. [Note: In July 2003, David will begin an associate professorship in the Dept. of Physics and Astronomy at Rice University, Houston, TX.]

Description of David’s featured E/PO role:

I was the E/PO lead for the Yohkoh mission, which made spectacular X-ray images of the Sun, and was Co-Investigator on the Yohkoh Public Outreach Project (YPOP), which was a partnership between Lockheed Martin Solar and Astrophysics Laboratory and Montana State University (MSU). Direct funding for YPOP ended in 1998 but the site has been maintained by NASA E/PO funds supporting Yohkoh.

I was also the creator and facilitator of Solar Week, a daughter site to YPOP, which focuses on a week-long set of content games and activities related to the Sun. The principal feature of Solar Week is that it provides interaction with solar scientists, all of whom are women, and who act as role models and mentors for the participating students.

How he became involved in the project:

I was a Co-Investigator on the original YPOP proposal while I was a research scientist at MSU and was heavily involved in the design, content and management of YPOP. Looking to broaden the impact to more under represented groups in the space sciences, I came up with the idea for Solar Week.

How he balances E/PO efforts with other professional activities:

I am lucky to be supported in this effort by my colleagues and management at Lockheed Martin. LMSAL has always been strongly involved in public outreach in our key science areas.

Challenges to his E/PO involvement:

The biggest challenge is to present the science in a stimulating but accessible format. The physics we deal with in our research is quite complex but the basic information can still be conveyed via movies, analogies, activities, and so on. We are lucky in solar physics to have some visually stimulating data, which helps capture the imagination of students and the public and which provides an exciting backdrop to discuss our science. Fortunately, the professional educators we work with scrutinize the scientific content we create for age- and level-specific appropriateness.

What he gets out of his participation:

A lot of personal satisfaction. It also introduced me to a whole new set of interesting people – other scientists with an enthusiasm for E/PO, educators with an enthusiasm for science, and of course the students and members of the general public who are as fascinated as we are by the Sun.

Often, a rapport develops and the conversation turns from a discussion on how hot the Sun is to one about why the scientists gave up dancing or what kind of car they drive. These are the connections that make the difference.

David’s words of wisdom about E/PO:

Make sure you know your intended audience and your own limitations and design your participation around them. Partnering with teachers or other education professionals tends to be mutually rewarding and often fun. Combining your strengths with those of an educator is a good recipe for an enjoyable and fruitful collaboration that has a better chance of having a meaningful impact.

For other scientists who’d like to get involved:

If you are a woman solar or solar-terrestrial scientist who would like to participate in Solar Week, please feel free to contact me at alexander@lmsal.com.

To learn more about YPOP:

www.lmsal.com/YPOP
and www.lmsal.com/YPOP/solarweek