

HMI and AIA E/PO Report
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For period 1-31 March 2004

1. Science Fellow Service Learning Program (*Partnership with Stanford's Haas Center and with Montana State*)

Q2 of our student Science Service Learning program at Stanford has completed. Six of our undergraduate Science Fellows have been working weekly at 3 sites of the Boys and Girls Clubs of the Peninsula, all serving under-represented students from ages 8 through 14. Kelly Beck, our Haas Coordinator, held a retreat on 31 March for the Science Fellows, us, and Cheri Morrow to discuss outcomes of the program so far. The most difficult challenge for the Science Fellows has been classroom management, so we focused on techniques for maintaining structure and focus when handling a large group of students. Kelly is also arranging for subsequent training in student management, to be given by a professional educator. The Science Fellows also revisited their goals, the activities they used to achieve them, and the results. Future activities will be designed with these lessons-learned in mind.

One Science Fellow is working closely with John Beck, a solar scientist on the HMI project, to develop an e-zine project based on a Blog (web log) model (e.g. www.scienceblog.com). They are targeting high school students and science teachers. The key structure and content will be based on interviews of Solar Scientists by our Science Fellow. These are currently being arranged.

Dave McKenzie at Montana has designed the Science Fellow E/PO program for their part of AIA, documented in a proposal for the Concept Study Report and a detailed budget. With help from Michelle Larson, he has set up collaboration with the University of Montana. They have also connected with Eric Brunsell, of Space Education Initiatives, to begin developing an assessment plan for their project

2. Solar Planetarium Program (*Stanford, jointly funded by NASA's LWS program*)

Jointly with the Lawrence Hall of Science we plan to develop a solar planetarium program for small, interactive planetaria such as the Starlabs. We continue to await delivery of the LWS grant funds to begin this project...

In the meantime, our 4H Astronomy Project students, ages 9 to 17, have developed and given planetarium programs using the Stanford Starlab planetarium. One student developed a solar presentation based upon the collection of slides Paul Mortfield produced for our AGU-SPA presentation bank. In addition to presentations to 4H clubs, the planetarium programs were given at a county-wide 4H Presentation Day, and 3 of our members earned high enough scores to participate in a northern California equivalent. However, the 4H organizers were unable to accommodate the planetarium so our students were not allowed to participate.

3. Solar Sudden Ionospheric Disturbance Monitor (SID) Project (*jointly funded by NSF's CISM program*)

We have arranged with a second high school, Castro Valley High, CA, to install a beta monitor on their site. Installation is scheduled for early April.

Shannon Lee, our community college student, continues to analyze the SID data collected by our 3 beta monitors. Now that we have a model body of data available, we are in the process of designing our data collection and storage system, based upon the SOHO MDI data handling system already in place. We have arranged for a summer student to work on developing the software to support automatic retrieval of data from the various SID monitors and the ability of students from the various high school sites to monitor and compare data from all the monitors.

The research quality monitors (AWESOME) are nearing completion, scheduled for May. We are beginning to design the high school and community college placement program for these.

4. Summer EXITE Camp for Underserved Middle-School Women Students

Plans continue for Stanford to host its first EXITE camp in June 2004. The camp concept was originally designed, tested, and is being funded by IBM. Stanford's Carnegie Institute for Plant Biology, the Center on Polymer Interfaces and Macro Molecular Assemblies in Chemical Engineering, and the Stanford Solar Center are the key sponsors, although faculty, staff, and students from various science departments will participate. We are exploring the possibility of including an e-mentoring program to follow up our EXITE camp attendees during the school year.

5. Partnerships with Local Science Museums

We are continuing to meet with staff at the Chabot Space and Science Center, where the AIA team already has a well-established partnership through other missions. Initial AIA/HMI discussions are targeting joint efforts to support NASA's Ancient Observatories theme for 2005. Summer teacher workshops, websites, and lesson plans are amongst the potential products of this collaboration.

On 26 March we held an initial meeting to explore a 3-way partnership with The Tech Museum of San Jose, Chabot Community College, and the Stanford Solar Center. The Tech museum targets under-served students in the San Jose and surrounding areas. We already have a partnership in place with Chabot CC, which is playing a strong role in our SID monitor development. The 3-partnership goal is to work solar science, and especially the SID project, into The Tech's "Design Challenge" model, helping students and the public to understand the function and role of technology in our modern society.

6. Brief Updates:

• **4H Astronomy Project**

As noted above, students in our 4H astronomy group have prepared planetarium presentations and given these at multiple 4H functions. The members have also developed 3-D constellation models related to their planetarium presentations. The models help the public understand the distances involved in the stars of a

given constellation. Students developed poster displays to accompany their models, detailing the science concepts being demonstrated. Some of these have already been shown at county-side displays. Others are targeted for submission to the Alameda County fair this summer.

A more formalized arrangement with 4H is still stalled over an indemnification clause being required by the UC Regents. Stanford lawyers have offered to negotiate on our behalf.

- **Chabot Community College Collaboration**
We continue to collaborate and support the Chabot Community College program in Integrated Science, English, and Math. We have planned a year-end trip, for 27 April, to Stanford and the Wilcox Solar Observatory as an incentive for the students to complete the program.
- **Presentation Bank** (*jointly funded by SOHO/MDI*)
The prototype is almost complete and has been tested in multiple situations. We are exploring the possibilities of extending the concept to a more complete collection of presentations and imagery. We are working with both the AGU and the AUG SPA Education Committee to identify existing slide sets and presentations that we might collect to “seed” a more extensive SPA Presentation Bank.
- **E/PO Planning**
At the end of March, Ed DeLuca, Dave McKenzie, and Deborah Scherrer attended the SDO workshop in Boulder where they met with with Emilie Drobnes and Cheri Morrow to discuss the SDO mission-wide plan for E/PO.