Birds of a Feather (BoFs)

B1   FITS

Don Wells (NRAO)

A discussion, lead by the organizer, of new and pending proposals for the evolution of the FITS standard.

B2   Reusable Software Components

Frank Tanner (STScI)

Software Reusability has been one of the cornerstones of Object Oriented Technologies. Successful code reuse often saves development time and keeps project costs down. Many observatories are developing software components that could be easily adapted and reused by other missions. This BOF session will highlight some of the reusable software components that session participants have developed and are currently developing. The goal of this BOF will be to open a dialog between software developers to facilitate the reuse of both small and large bodies of software.

B3   Education and Public Outreach

Steve McDonald (UMASS Boston and Silicon Spaceships)

Education and public outreach plays an increasingly significant role in government funded astronomy projects. In this web dominated world, projects put vast background information, all of their observations and their analysis software on the web. Typically, this is all available to the general public.

Astronomy excites the general public more than other sciences and amateur astronomers contribute many important observations using their own telescopes. Is it possible to build a broad amateur community using archived data from world class observatories?

What projects have an amateur community using their data? What do they have in common? Are there useful scientifically tasks for amateurs? What aspects of the analysis software inhibit its wider use?

This workshop will review projects that have or are trying to build an active amateur or student community. We will discuss the needs of non-professionals. We will try to identify data sets that posses the elements needed to reach but have not yet successfully done so.

B4   Python in Astronomy

Perry Greenfield (STScI)

An informal discussion of Python's current and future role in astronomy. In particular it will be a forum for those that wish to:
- Find out why Python is of interest.
- Describe current projects using Python.
- Find out what STScI's plans for Python are and provide feedback on existing STScI Python packages such as PyRAF, PyFITS, and numarray
- Help define what the priorities for Python libraries should be.
- Start collaborative efforts.

B5   Astronomical Websites

Tony Ferro (Arizona)

An informal get together to discuss the trials and tribulations associated with creating and running a website associated with the wacky world of astronomy. We will have some presentations and discussions on such topics as:
- Security concerns (e.g. securing CGI scripts, using HTTPS)
- Web development environments (e.g. ZOPE, Bluefish)
- What happens when the press release hits CNN
- How to manage a large or small web site (how much cpu do you need?)
- Distribution of large files (e.g. ftp vs. http)

We will try to stay away from such topics as XML and Web services, since those topics are covered in the tutorial.

B6   Teaching Scientific Computing with N-body Simulations

Vicki Johnson (Interconnect) Peter Teuben (UMD)

Many undergraduate students are not learning how to program, how to use Unix, or the basic principles of scientific computing and numerical estimation. The classic N-body problem can be used to illustrate many dimensions of scientific computing. The BoF participants will be invited to make specific suggestions how to use the classic N-body problem to introduce students to modeling (simple physics), algorithms, the development of simple programs to implement basic algorithms, the Unix environment and open source tools (gcc and gnuplot), tradeoffs between efficiency and accuracy, numerical analysis, visualization and animation, scalability (e.g. computations growing at N^2 or $N\log N$) and supercomputing (e.g., using low-cost GRAPE cards, optimized for the force calculations) and parallel programming, and interdisciplinary uses of N-body simulations, such as in computational biology and astrophysics.

The results will be posted on the web to provide teachers of math, computer science, physics, astronomy, biology, etc. with concrete examples to teach scientific computing.