

The First Workshop on Software Engineering for Computational Science and Engineering

International Conference on Software
Engineering

May 13, 2008

Schedule

- 8:45 Welcome
- 9:00 Session 1 – How Do We Study Scientists
- **Towards an Ecologically Valid Study of Programmer Behavior for Scientific Computing** by Halverson, et al.
 - **Large, Efficient Table-top Computing** by, Basili, et al.
 - **Information Design of a Search Tool for Bioinformatics** ,by Umarji and Seaman
- 10:15 Follow-up and Discussion
- 10:30 BREAK
- 11:00 Session 2 – How Scientists Develop Software
- **Models of Scientific Software Development** ,by Segal
 - **Assessing the Quality of Scientific Software**, by Kelly and Sanders
 - **Some Lessons I Learned Reviewing Scientific Code**, by Morris
- 12:15 Follow-up and Discussion

Schedule

- 12:00 LUNCH
- 14:00 Session 3: Improving Scientific Software Development
- Towards Applying Complexity Metrics to Measure Programmer Productivity in High Performance Computing by Danis, et al.
 - Software Automation in Scientific Research Organizations by Vigder et al.
 - Commonality and Analysis of Families of Physical Models for use in Scientific Computing, Smith, et al.
- 15:15 Follow-up and Discussion
- 15:30 BREAK
- 4:00 Break-Out Groups
Topics to be determined throughout the day
- 5:00 Report of Break-Out Groups
- 5:30 Adjourn

Potential Breakout Questions

- What are current scientists doing to develop software?
- Design a survey for MATLAB users to find out what they actually do (i.e. get some demographics about the desktop scientists as opposed to the HPC scientists)
- What are the similarities/differences between scientists who use HPC machines and those who use desktop machines?
- What about other quality attributes besides performance and correctness?