Moderator: Dr. Frank Mello

Panel : Measuring High Performance Computing Hardware and Software Performance Focus:

Speaker	Author	Title	Company
1	Bob Lucas		ISI
2	Victor Bandy		TRW
3	Brian Sroka		MITRE
4	Rich Linderman		AFRL
5	Erich Strohmaier		NERSC
6	Alan Snavely		USCD

As computer chip technology continues to march along the path predicted by Gordon Moore in 1965, it is becoming increasingly difficult to correlate machine performance to that of application software. Raw floating-point performance has waned as the dominant metric for predicting HPC capabilities. The performance of complex hierarchical memory systems and interconnect fabrics are at least as important as clock speed when modeling application software performance. This has prompted a move away from traditional metrics and supercomputer rankings, toward a more holistic assessment process that evaluates the balance exhibited by an architecture when running real applications. Significant challenges exist to developing HPC benchmarks, which are complex enough to exercise appropriate functionality yet simple enough to be studied effectively.