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**Title: Achievements and Opportunities in Volunteer Computing**

**Abstract** = For a number of years, Peta-scale has been the Holy Grail of high-performance computing. Sustained PetaFLOPS throughput was achieved in the past year, not by a supercomputer, Grid or cloud, but by volunteers. This was achieved by Folding@home using 40,000 Sony Playstation 3 game consoles. More recently, the BOINC network exceeded the TeraFLOPS mark using a half-million general-purpose computers.

What is volunteer computing's roadmap from Peta-scale to Exa-scale? It certainly involves high-performance processors such as GPUs, Cells, and multi-core CPUs. It may also involve the slower but more energy-efficient (and numerous) processors in mobile devices and appliances. More importantly, how can we make high-performance computing available to more scientists, and how can we further involve the public in the scientific process? I will discuss some current and future efforts in these directions.

**BIO** = Dr. David P. Anderson received graduate degrees in Mathematics and Computer Science at the University of Wisconsin. From 1985 to 1992 he served on the faculty of the U.C. Berkeley Computer Science Department. The topics of his published research include volunteer computing, distributed systems, realtime and multimedia systems, graphics, computer music, and psychometrics applied to learning and aesthetic preference. Since 1998 he has directed [SETI@home](#), a pioneering project in volunteer computing. In 2002 he founded the [Berkeley Open Infrastructure for Network Computing](#) (BOINC) project, which develops platform software for volunteer computing. He directs [Bossa](#) (software for distributed thinking) and [Bolt](#) (software for web-based training and education).

He is currently a Research Scientist at the U.C. Berkeley Space Sciences Laboratory.