

Reaching Out, Moving Forward: SciDAC 2009

By almost any measure, we've come a long way since DOE launched the SciDAC program back in 2001. At the time, we were grappling with how to efficiently run applications on terascale systems (the November 2001 TOP500 list was led by DOE's ASCI White IBM system at Lawrence Livermore, achieving 7.2 teraflop/s). And the results stemming from the first round of SciDAC projects were summed up in two-page reports. The scientific results were presented at annual meetings, which were by invitation only and typically were attended by about 75 researchers.

Fast forward to 2009 and we now have *SciDAC Review*, a quarterly magazine showcasing the scientific computing contributions of SciDAC projects and related programs, all focused on presenting a comprehensive look at Scientific Discovery through Advanced Computing. That is also the motivation behind the annual SciDAC conference, to be held this year June 14–18 in San Diego, California.

The annual conference, which can also be described as a celebration of all things SciDAC, grew out those meetings organized in the early days of the program. In 2005, the meeting was held in San Francisco and attendance was opened up to all members of the SciDAC community. The schedule was also expanded to include a keynote address, plenary speakers, and other features found in a conference format. Attendance now regularly exceeds 300 participants.

This year will mark the fifth such SciDAC conference, which now comprises four days of computational science presentations, multiple poster sessions, and, since last year, an evening event showcasing simulations and modeling runs resulting from SciDAC projects. This program was so successful we will be repeating it in San Diego, including the presentation of the coveted "OASCR Awards" for the best entries.

While the growth and success of the SciDAC program is a clear reflection of the progress and breakthroughs achieved by the various projects, centers, and institutes, the program was able to thrive in the Office of Science through the leadership of Under Secretary of Science, Dr. Raymond Orbach, who consistently endorsed and funded the growing contributions of high-performance computing (HPC) in meeting DOE's research objectives. It is therefore quite fitting that Dr. Orbach will be our opening keynote speaker at SciDAC 2009.



Dr. Horst Simon

Dr. Orbach's address will kick off four days of scientific presentations by members of various SciDAC collaborations, discussing areas ranging from climate modeling to computer science, combustion to QCD. The conference program is available on the SciDAC 2009 conference web site.

Every year, it seems, the organizing committee adds another component to the SciDAC conference, providing additional breadth to the program. This year, we will more formally link up with our colleagues in the Department of Defense HPC Modernization Program (HPCMP), whose meetings have coincided with several previous SciDAC conferences, as well as including a few of the National Science Foundation (NSF) Petascale applications.

First, the Tuesday evening poster session on June 16 will be a joint session featuring invited posters from both groups of attendees. If the poster sessions from past meetings are any indication, I'm sure that this session will also spur extensive conversations and may even lead to future collaborations.

The conference will also feature a session about breakthroughs in computational science, based on the "breakthrough report" that was published in 2008 led by ORNL's Tony Mezzacappa ("Top Breakthroughs in Computational Science," *SciDAC Review* 11, Special Issue 2009, p32). Tony was also the chair of the SciDAC 2005 conference.

We have also extended invitations to our computational colleagues in other federal agencies—including the NSF, NASA, and the National Oceanographic and Atmospheric Administration—and international collaborators to join us in San Diego.

This outreach to the broader community is really what SciDAC is all about—Scientific Discovery through Advanced Computing. Such discoveries are not confined by organizational lines, but rather they are often the result of researchers reaching out and collaborating with others, using their combined expertise to push our boundaries of knowledge.

Join us. ●

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Further Information

<https://hpcrd.lbl.gov/scidac09/index.html>