

Bio for David Jefferson

Dr. David Jefferson is computer scientist at Lawrence Livermore National Laboratory and an internationally recognized expert on voting systems and election technology. He has been a pioneer in research at the intersection of computing, the Internet, and elections for 20 years, and has been an advisor to five successive Secretaries of State of California on technology-related issues.

Jefferson is a long-time member and former Chair of the boards of directors of the California Voter Foundation (www.calvoter.org) and of Verified Voting (www.verifiedvoting.org), two nonprofit, nonpartisan organizations devoted to promoting open, secure election technology.

In 2009 he served as the Co-chair for the EVT/WOTE '09 conference – the primary academic voting technology and security conference in the U.S. (www.usenix.org/event/evtwote09).

In 2007 under Secretary of State Debra Bowen he chaired the Post-Election Audit Standards Working Group that worked in parallel with the Top to Bottom Review to produce the first government-sponsored report on post-election auditing (www.sos.ca.gov/elections/elections_peas.htm) and introduced the fundamental concept of *risk limiting* audits.

In 2004 he was coauthor of the SERVE Security Report, which detailed major security vulnerabilities in the DoD's proposed SERVE Internet voting system, which led to the cancellation of the program (www.servesecurityreport.org).

In 2003, he was a member of the Secretary of State Kevin Shelley's Ad Hoc Task Force on Touchscreen Voting, whose recommendations led eventually to the requirement for voter verified paper audit trails for electronic voting machines in California.

He subsequently chaired the Voting Systems Technology Assessment and Advisory Board under Secretary of State Bruce McPherson. In that capacity he led and coauthored half a dozen detailed technical studies on reliability and security problems in particular voting systems.

In 1999 Jefferson chaired the Technical Committee of Secretary of State Bill Jones' Task Force on Internet Voting, whose report was the first major study of that subject, and the first to warn of serious security problems with Internet voting from voters' private platforms.

In 1996 he received a James Madison Freedom of Information Award for his work on bringing nonpartisan election information to the web.

In 1994, in the earliest years of the web, Jefferson developed the California Election Server in cooperation with Acting California Secretary of State Tony Miller, Digital Equipment Corporation, and the California Voter Foundation. This was the first web server anywhere to provide online voter information on candidates and issues, as well as live election returns, setting a world traffic record of 1 million page hits in 24-hours.

Jefferson has been an invited speaker on election technology issues at the annual conferences of IACREOT (International Association of Clerks, Recorders, Election Officials and Treasurers), NASED (National Association of State Election Directors), and the Election Center, as well as at universities such as Stanford, M.I.T., U.C. Berkeley, U. T. Austin, Evergreen College, U.C. Irvine, University of Calgary, and University of Massachusetts, and numerous other venues. He has also consulted with numerous agencies and states on voting security, including the FEC and the Department of Defense.

In 1980 Jefferson received a Ph.D. in computer science from Carnegie-Mellon University. From 1980 to 1994 he was a computer science professor, first at USC and then at UCLA, where he conducted research in parallel computation, simulation, genetic algorithms, and evolution. He is well known among computer scientists for the co-invention of the Time Warp method of parallel discrete event simulation, and in 1990 he received an R&D 100 Award for that work and for leading one of the top 100 R&D projects in the United States. He is currently a Visiting Scientist at Lawrence Livermore National Laboratory, where he leads research in discrete event simulation for various national security applications. In 2013 he and his colleagues set a world record for extreme scale and sustained speed of a discrete event simulation using LLNL's Blue Gene/Q supercomputer *Sequoia*.