



Seminar Series Computer Science



Some Thoughts on Cyber Security Threats and Future Cyber Technologies

James Peery, Sandia

Oct 11th Thursday, 12:30 to 1:30pm

209 Comp. Sci. Bldg.

Abstract - To tip the balance in favor of cyber defenders, approaches and technologies must be developed and deployed that decrease benefits and impose costs (or risk) to attackers. Attackers are able to leverage the complexity of modern hardware and software systems at the component level to find and exploit a seemingly endless stream of vulnerabilities. These attacks scale globally to provide disproportionate benefit to attackers as a result of the relatively homogenous computing base that exists in most enterprise environments throughout the world. This talk will first describe Sandia National Laboratories and its history and mission space in cyber security. Next, the evolving cyber threat will be discussed. Finally, a few emerging cyber defense technologies will be highlighted.

Brief Bio - Dr. James Peery is the Director of the Information Systems Analysis Center, at Sandia National Laboratories (SNL) in Albuquerque, New Mexico. From 2007 to March 2010, James was the Director of the Computation, Computers, Information and Mathematics (CCIM) Center. CCIM is the foundation of SNL's research and development activities in high performance computing. CCIM contains the Computer Science Research Institute (CSRI), the joint Institute for Advanced Architectures and Algorithms (IAA) with ORNL and the Alliance for Computing at Extreme Scales (ACES) with LANL. During this period, James was the Program Director of the NNSA's Advanced Simulation and Computing Program (ASC - \$120M/y) at SNL. Prior to returning to Sandia, James worked at Los Alamos National Laboratory (LANL) from 2002 to 2007 in the positions of Hydrodynamic Experiments Division Leader, Principal Deputy Associate Director of the LANL's \$1.2B Nuclear Weapons program and Program Director of the NNSA's Advanced Simulation and Computing Program (ASC - \$180M/y). James' major research areas are in Arbitrary Lagrangian Eulerian (ALE) algorithms and parallel algorithms where he has published greater than 50 papers. As part of the SALINAS team, James was awarded the 2002 Gordon Bell Award and NNSA Award for Excellence. James earned his Ph.D. degree in nuclear engineering from Texas A&M University and joined Sandia National Laboratories as a Member of the Technical Staff in 1990.