

Erik Jonsson School of Engineering and Computer Science

Distinguished Lecturer Series 2005

Presents

Eugene H. Spafford
Professor & Executive Director
Purdue University CERIAS



Cyber security: Past, Present and Future

Computer science is a relatively young field, being only about 50 years young. In those few decades we have moved from a few isolated, mammoth vacuum tube and relay based systems to a world where there are perhaps billions of interconnected, miniaturized computers in everything from automobiles to refrigerators to airplanes to telephones. The looming future suggests that we will see a further increase in connectivity and computerization, with deployment and use of systems in ways we can but dimly imagine. But along with this growing dependence on computing and computer-mediated computation, we have also seen a rise in various forms of computer abuse. Some of it is accidental and some is pure vandalism, but more and more often we are seeing instances of criminal activity and political action. The cyber infrastructure that we depend on has grown so quickly that insufficient attention has been paid to how to protect it against misuse and abuse. The trends for future vulnerabilities and exploits do not show any significant improvement, either. This talk will briefly recount some of this history of computing and computer crime to illustrate some trends. Some of the current threats facing society's dependence on cyber infrastructure, from spam to worms to DDOS, will be discussed. The conclusion will examine what the future might bring, and how we all can help influence the rise of a more security-conscious culture.

Dr. Eugene H. Spafford is a professor of Computer Sciences at Purdue University and a professor of Electrical and Computer Engineering, a professor of Philosophy (courtesy appointment), a professor of Communication (courtesy), and is Executive Director of the Center for Education and Research in Information Assurance and Security. CERIAS is a campus-wide multi-disciplinary Center, with a broadly-focused mission to explore issues related to protecting information and information resources. Among his many activities, Spaf is chair of the ACM's U.S. Public Policy Committee, is a member of the Board of Directors of the Computing Research Association, and

is a member of the President's Information Technology Advisory Committee (PITAC). He is a member of the FBI's Regional Computer Forensic Laboratory program, and of several corporate boards of advisors. More information may be found at:

<http://www.cerias.purdue.edu/homes/spaf>

Area of Research: Information security and assurance, cyber forensics, cyber ethics, and IT policy

Awards: Fellow of the ACM, AAAS, and IEEE; NIST/NCSC National Computer Systems Security Award (2000), three of Purdue University's highest awards for outstanding teaching, IEEE Computer Society's Taylor Booth medal for education (2004).

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