

Accounting and Cybersecurity Economics Education and Research Lab

The Accounting and Cybersecurity Economics Education and Research Lab, hereafter referred to as the ACEER Lab, is a virtual education and research endeavor that focuses on accounting and economic aspects of cybersecurity. The types of issues examined by the individuals involved in the ACEER Lab include, but are not limited to:

- How much should an organization invest in cybersecurity activities and what is the most efficient way to allocate such investments?
- What is the economic impact of cybersecurity breaches on corporations?
- How can cybersecurity activities enhance the value of firms in the private sector?
- What incentives and/or regulations are required to encourage organizations to invest an appropriate amount in cybersecurity?
- What effect has the 2011 SEC's Disclosure Guidance on Cybersecurity Risks and Cyber Incidents had on corporations?
- How can information sharing of cybersecurity activities improve economic and national security?
- What is the best way to conduct Cybersecurity Risk Management?
- What is the role of an efficient cybersecurity insurance marketplace?
- How do various accounting treatments affect incentives for cybersecurity Investments?

The ACEER LAB consists of a virtual group of individuals who have a common interest in the effect of accounting and economics on cybersecurity related issues. The ACEER Lab has its origins in an educational project designed by Dr. Lawrence A. Gordon for his MBA students during the spring of 1998 at the University of Maryland's (UMD's) Robert H. Smith School of Business. By the summer of 1999, Professor Martin P. Loeb joined Professor Gordon on a research project initially funded by UMD's Smith School of Business. The Smith School of Business continues to provide generous direct, as well as indirect, support for the activities of the ACEER Lab.

In the spring of 2000, through the spring of 2006, the U.S. National Security Agency provided support for the ACEER Lab research activities being carried out by Drs. Gordon and Loeb (both Professors in the Smith School of Business). Within a few years, Dr. Lawrence Bodin, Mr. William Lucyshyn, Dr. Lei Zhou and Dr. Tashfeen Sohail became key members of this informal group of educators and researchers who work on various issues related to accounting and economic aspects of cybersecurity. Since its inception, members of the ACEER Lab have collaborated with educators, researchers, business executives, and government officials from around the world. In October of 2007, Dr. Gordon was invited to provide Congressional

Testimony concerning cybersecurity economics before a Subcommittee of the U.S. House Committee on Homeland Security.

Other significant activities related to the ACEER Lab include the following. The Workshop on Economics and Information Security (WEIS) was established in 2002, with Drs. Gordon and Loeb being among the founding organizers of WEIS. An annual forum entitled “Financial Information Systems and Cybersecurity: A Public Policy Perspective,” co-sponsored by UMD’s Smith School of Business and the School of Public Policy, was started in 2004 (Drs. Gordon and Loeb, and Mr. Lucyshyn, are the Co-Coordinator of this forum). Research funding was provided by the U.S. Department of Homeland Security from the fall of 2012 through the spring of 2015 to Dr. Gordon (as Principal Investigator), Dr. Loeb (as Co-Principal Investigator) and Mr. Lucyshyn (as Co-Principal Investigator). Dr. Gordon began a new Honors Seminar entitled “Accounting and Economic Aspects of Cybersecurity,” in the spring of 2014, as part of the Advanced Cybersecurity Experience for Students (ACES) living-learning program offered by UMD’s Honors College.

The activities of the ACEER Lab have resulted in a large number of publications in a variety of academic and professional journals. One of these publications includes the *Gordon-Loeb Model* (published in *ACM Transactions on Information and System Security*, 2002), which is one of the most well accepted analytical models in the economics of cyber/information security literature. In 2006, Drs. Gordon and Loeb, authored the highly acclaimed book entitled *MANAGING CYBERSECURITY RESOURCES: A Cost-Benefit Analysis* (published by McGraw-Hill, Inc.). In 2008, Dr. Gordon established an Endowment Fund at UMD (with an initial gift of \$25,000, as part of UMD’s Great Expectation Campaign) to support The Gordon Prize in Managing Cybersecurity Resources.

A fundamental focus of the ACEER Lab has always been, and continues to be, providing a free service to organizations concerning potential ways of improving the efficiency of their activities related to *managing cybersecurity risks*. A large number of businesses and government agencies have already taken advantage of this service.

Individuals and organizations interested in becoming affiliated with, or obtaining more information about, the ACEER Lab should contact Dr. Lawrence A. Gordon (lgordon@rhsmith.umd.edu), EY Alumni Professor of Managerial Accounting and Information Assurance, ACEER Lab Coordinator, Robert H. Smith School of Business, University of Maryland.