

DAVID THAW

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3900 Forbes Avenue, Pittsburgh, PA 15260

CURRENT APPOINTMENTS

Assistant Professor, University of Pittsburgh

- **School of Law** (primary tenure-track appointment) (2014 – Present)
- **School of Computing and Information**, Department of Informatics and Networked Systems (secondary appointment with governance privileges) (2014 – Present)
- **Graduate School of Public and International Affairs** (secondary appointment by courtesy) (2016 – Present)

Affiliated Fellow, Information Society Project – **Yale Law School** (2010 – Present)

VISITING ACADEMIC APPOINTMENTS

Visiting Professor/Visiting Lecturer, Department of American Law – **Hallym University of Graduate Studies/University of Connecticut Joint Program in American Law** (Seoul, Korea) (Summer 2014, Winter 2014-2015, Summer 2015, Winter 2015-2016, Winter 2016-2017, Winter 2017-2018)

Visiting Professor, Department of Law "Cesare Beccaria," **Università degli Studi di Milano** (Summer 2016)

PREVIOUS FULL-TIME ACADEMIC APPOINTMENTS

Visiting Assistant Professor, School of Law – **University of Connecticut** (2012 – 2014)

Research Associate, Department of Computer Science – **University of Maryland** (2011 – 2012)

Visiting (Postdoctoral) Fellow, Information Society Project – **Yale Law School** (2008 – 2010)

EDUCATION

Ph.D. Information Management and Systems, May 2011 – **University of California, Berkeley**
Dissertation: *Characterizing, Classifying, and Understanding Information Security Laws and Regulations: Considerations for Policymakers and Organizations Protecting Sensitive Information Assets*

J.D. Berkeley Law (Boalt Hall), May 2008 – **University of California, Berkeley**

M.A. Political Science, May 2004 – **University of California, Berkeley**

B.A. Government and Politics with High Honors, May 2003 – **University of Maryland, College Park**

B.S. Computer Science with Honors, May 2003 – **University of Maryland, College Park**

SCHOLARLY WORKS-IN-PROGRESS AND ONGOING SCIENTIFIC RESEARCH

Articles

- *Managing Electoral Cyber Risk* (developing a framework for understanding cyber threats to election systems and the legal and technological systems which can address those threats, and arguing that a “hacking” viewpoint of such threats misunderstands the nature of the problem and mitigating unlawful electoral interference must instead be understood and characterized in terms of a comprehensive, integrated legal and technological risk management framework) (working paper).
- *Disambiguating "Cyber"* (arguing for an organized understanding of the often-conflated terms "privacy," "data protection," "cybersecurity," "cybercrime," "cyber warfare," and related terms through the axes of (1) normative versus objective evaluation; and (2) the distinctions among private, public, criminal, and international law) (working paper).

Books

- **CYBERSECURITY: AN INTERDISCIPLINARY PROBLEM** (interdisciplinary instructional and reference text covering topics in cybersecurity, cybercrime, cyber conflict, and associated regulatory topics for lawyers, scientists, engineers, policymakers, and business leaders) (with Gus Hurwitz and Derek Bambauer) (under contract, WEST ACADEMIC PUBLISHING).
- **REDEFINING CYBERSECURITY POLICY: *An Interdisciplinary Approach to System Failures*** (scholarly book project connecting several threads of empirical scientific research and scholarly analysis to illuminate why cybersecurity presents a complex problem, the necessity of interdisciplinary approaches, how flexible regulation can more effectively address such complex problems, and cybersecurity might teach us about the future of managing complex problems in a globally-interconnected world) (example chapters listed below).
 - *Cybersecurity Stovepiping* (arguing that disconnects between policymakers and technical experts in lawmaking and rulemaking processes not only fail to produce positive benefits, but may actually undermine the very goals the policy set forth to achieve, using the myth of increased security through complex password requirements as a case study) (96 NEB. L. REV.) <http://ssrn.com/abstract=2572012>.
 - *Redefining Cybersecurity* (arguing that current organizational and legal policy approaches to cybersecurity are structurally inferior, focusing on risk prevention when risk management is more effective. This work is part of a larger book proposal planned to include portions of *Cybersecurity Stovepiping*, *The Efficacy of Cybersecurity Regulation*, and *Enlightened Regulatory Capture* as chapters and utilizing empirical data from the Chameleon system) (working paper), <http://ssrn.com/abstract=2835126>.

Scientific Papers/Laboratory Work

- *Chameleon Cyber Threat Intelligence Gathering System, Cyber Research Environment Network (CyREN) Laboratory, University of Pittsburgh School of Computing and Information* – cybersecurity research project developing a method and system to collect current and prospective cyber threat intelligence data (additional information available upon request; subject to information release restrictions)
 - *Honeynet Shortcomings: A Review of Historical Empirical Cyber Threat Intelligence Gathering Approaches and Challenges* (examining the history of honeynet and related cyber threat intelligence gathering technologies, evaluating the empirical shortcomings of those technologies, and categorizing these past deficiencies with the goal of identifying future improvements) (working paper).

- *Efficient Defense Allocation: Empirical Examination of the Relative Efficacy of Perimeter Defense Technologies* (empirical examination of the hypotheses that (1) remote information security compromises occur as a result of network "perimeter breaches"; and (2) network "perimeter" defense technologies are an efficient/effective methods for preventing the most common types of remote information security compromises) (working paper).
- *Enhancing Cyber Simulation Testing: Investigating the Utility of User Automation and Camouflage as Independent Variables* (developing a simulation-based approach to empirically quantify the extent to which: (1) simulation camouflage sophistication; and (2) user behavior may be independent variables affecting the probability of successful network penetration by unspecified adversaries) (working paper).
- *Defining AI Security: An Exposé of the Ambiguous Terminology and the Problem Space* (defining the problem space of "Artificial Intelligence Security" and disambiguating this term which actually refers to three separate, discrete problems with different regulatory goals) (with Carrie Gardner) (working paper).

SELECTED LEGAL SCHOLARSHIP

- *Ancient Worries and Modern Fears: Different Roots and Common Effects of U.S. and EU Privacy Regulation*, 49 CONN. L. REV. 1621 (2017) (with Pierluigi Perri) <http://ssrn.com/abstract=2596382>.
- *Cybersecurity Stovepiping*, 96 NEB. L. REV. 339 (2017) <http://ssrn.com/abstract=2572012>.
- *Data Breach (Regulatory) Effects*, 2015 CARDOZO L. REV. DE NOVO 151 <http://ssrn.com/abstract=2595297>.
- *Reasonable Expectations of Privacy Settings: Contemplating the Stored Communications Act Through the Prism of Social Media*, 13 DUKE L. & TECH. REV. 36 (2015) (with Christopher J. Borchert and Fernando Pinguelo) <http://ssrn.com/abstract=2306839>.
- *Surveillance at the Source*, 103 KY. L. J. 405 (2015) <http://ssrn.com/abstract=2512121>.
- *Enlightened Regulatory Capture*, 89 WASH. L. REV. 329 (2014), <http://ssrn.com/abstract=2298205>.
- *The Efficacy of Cybersecurity Regulation*, 30 GA. ST. U. L. REV. 287 (2014), <http://ssrn.com/abstract=2241838>.
 - *Invited Congressional Testimony: Reporting Data Breaches: Is Federal Legislation Needed to Protect Consumers?*, Hearing Before the House Energy & Commerce Comm., Subcomm. on Commerce, Mfg., & Trade, 113th Cong. (July 18, 2013)
- *Criminalizing Hacking, Not Dating: Reconstructing the CFAA Intent Requirement*, 103 J. OF CRIM. L. & CRIMINOLOGY 907 (2013), <http://ssrn.com/abstract=2226176>.
- *When Machines Are Watching: How Warrantless Use of GPS Surveillance Technology Violates the Fourth Amendment Right Against Unreasonable Searches*, 121 YALE L.J. ONLINE 177 (2011) (with Priscilla J. Smith, Nabaha Syed & Albert Wong), <http://ssrn.com/abstract=1942559>.
- *User Choices and Regret: Understanding Users' Decision Process About Consensually Acquired Spyware*, 2 I/S: J. L. & POL. INFO. SOC'Y 283 (2006) (with Nathaniel Good, Jens Grossklags, Aaron Perzanowski, Deirdre Mulligan & Joseph Konstan), <http://ssrn.com/abstract=2262437>.

SELECTED SCIENTIFIC, POLICY, AND OTHER ACADEMIC PUBLICATIONS

- Carrie Gardner, Abby Waliga, David Thaw, and Sarah Churchman, *Using Camouflaged Cyber Simulations as a Model to Ensure Validity in Cybersecurity Experimentation*, HICCS 51 Symposia on Cybersecurity Big Data Analytics, Jan. 3-6, 2018 (Big Island, HI) (also accepted for publication in SECURITY INFORMATICS, *Special Issue on Cybersecurity* (forthcoming 2018)).
- Julie Cohen, Chris Hoofnagle, William McGeeveran, Paul Ohm, Joel Reidenberg, Neil Richards, and David Thaw, *Information Privacy Scholars' Brief in Spokeo, Inc. v. Robins*, No. 13-1339, Sept. 6, 2015, <http://ssrn.com/abstract=2656482>.
- Priscilla J. Smith, Nabiha Syed, David Thaw & Albert Wong, *Brief of Yale Law School Information Society Project Scholars and Other Experts in the Law of Privacy and Technology in United States v. Jones*, 565 U.S. 400 (2012).
- David B. Thaw, *Characterizing, Classifying, and Understanding Information Security Laws and Regulations: Considerations for Policymakers and Organizations Protecting Sensitive Information Assets* (May 12, 2011) (Ph.D. dissertation, University of California, Berkeley (on file with the University of California)), <http://www.davidthaw.com/papers/DavidThawDissertationFinal.pdf>.
- David Thaw, Neha Gupta & Ashok Agrawala, *Proposal for a "Down-the-Chain" Notification Requirement in Online Behavioral Advertising Research and Development* (W3C Workshop on Web Tracking and User Privacy Working Paper, Apr. 28, 2011), <http://www.w3.org/2011/track-privacy/papers/ThawGuptaAgrawala.pdf>.
- Priscilla J. Smith, Nabiha Syed, David Thaw & Albert Wong, *Information Society Project at Yale Law School Fellows' Brief in Support of Certiorari to the United States Supreme Court in United States v. Pineda-Moreno*, No. 08-30385, Dec. 17, 2010.
- David Thaw & Jerome Feldman, *CoPE: Democratic CSCW in Support of e-Learning*, in INTELLIGENT COLLABORATIVE E-LEARNING SYSTEMS AND APPLICATIONS (T. Daradoumis, S. Caballe, J. M. Marques & F. Xhafa eds., 2010).
- David Thaw, Jerome Feldman & Joseph Li, *CoPE: Democratic CSCW in Support of e-Learning*, 2008 IEEE COMPUTER SOC'Y: PROCEEDINGS OF THE INT'L WORKSHOP ON COLLABORATIVE E-LEARNING SYS. & APPLICATIONS 481.
- Sante Caballé, Jerome Feldman & David Thaw, *Supporting Communities of Learning Practice by the Effective Embedding of Information and Knowledge into Group Activity*, 2008 COMPUTER SOC'Y: PROCEEDINGS OF THE INT'L WORKSHOP ON COLLABORATIVE E-LEARNING SYS. & APPLICATIONS 493.
- Nathaniel Good, Rachna Dhamija, Jens Grossklags, Steven Aronowitz, David Thaw, Deirdre Mulligan & Joseph Konstan, *Stopping Spyware at the Gate: A User Study of Privacy, Notice and Spyware*, in SPYWARE: AN INSIGHT (Ravi Kumar, ed. 2007) (reprint of earlier conference paper).
- Jerome Feldman, Daniel Lee & David Thaw, *Communities of Practice Environment*, in THE INTERNET AND SOCIETY (Morgan, Bebbia & Spector eds., 2006).
- Nathan Good, Rachna Dhamija, Jens Grossklags, Steven Aronowitz, David Thaw, Deirdre Mulligan & Joseph Konstan, *Stopping Spyware at the Gate: A User Study of Privacy, Notice and Spyware* 2005 ASS'N OF COMPUTING MACHINERY: PROCEEDINGS OF THE SYMPOSIUM ON USABLE PRIVACY AND SECURITY 43.

SELECTED RESEARCH FUNDING AWARDS

- *Chameleon Project, CyREN Laboratory*, University of Pittsburgh School of Computing and Information (Principal Investigator)
 - School of Computer and Information, Dean’s Startup Funding (\$10,000) (2015 – 2016)
 - Office of the Senior Vice Chancellor for Research, Directed Research Funding (\$150,000) (2016 – 2018)
- *Security-Assisted Data Science Workforce Development in Pennsylvania*, University of Pittsburgh School of Computing and Information (Co-PI), National Science Foundation (\$476,903) (2017 – 2020)
- *Ancient Worries and Modern Fears: Different Roots and Common Effects of U.S. and EU Privacy Regulation*, (Principal Investigator) University of Pittsburgh European Studies Center, Jean Monet EU Center of Excellence Faculty Research Grant (\$2,929.68) (2016).

SELECTED INVITED PRESENTATIONS

- *Managing Electoral Cyber Risk*, Privacy Law Scholars Conference, George Washington University Law School, May 30 – 31, 2018.
- *Defining AI Security: An Exposé of the Ambiguous Terminology and the Problem Space*, The Regulation of AI, University of Surrey, United Kingdom, Mar. 7-8, 2018.
- *Blockchain 3.0 and the Future of Ownership*, Blockchain 3.0 Conference, Seoul, KR, Feb. 8, 2018.
- *The CFAA at 30: Problems and Policies*, Journal of Science & Technology Symposium on Cyberlaw, Boston University School of Law, Feb. 2, 2018.
- *Managing Electoral Cyber Risk*, Penn State Law Junior Faculty Exchange, State College, PA, Nov. 9, 2017.
- *The Internet of Things and Cybersecurity*, Cybersecurity and the Law Conference, Albany Law School, Albany, NY, Oct. 19 – 20, 2017.
- *Fake Identity, Fake News: The Changing Nature of the Cyber Security Threat*, Blouin Creative Leadership Summit, New York, NY, Sept. 18, 2017.
- *Limitations on Cyber Operations and Issues of Sovereignty in Cyberspace*, Advanced Operational Law Conference, United States Strategic Command, Offutt AFB, NE, Sept. 7 – 8, 2017.
- *Data Privacy Speaker Series*, University of Arizona School of Law, Apr. 20, 2017.
- *State, Local, and Regional Issues in Cybersecurity*, University of Nebraska College of Law, Mar. 17, 2017.
- *AI and Machine Learning for Cybersecurity and Fraud Detection*, Center on Law and Information Policy Conference on Artificial Intelligence, Machine Learning, and Law, Fordham Law School, Feb. 28, 2017.
- *Notre Dame Conference on Data Security*, Notre Dame University Law School, Feb. 24, 2017.
- *Disambiguating Cyber*, Nebro(hi)oklyn 2016/2017 Workshop for Junior Faculty in Law and Technology, The Ohio State University Moritz College of Law, Feb. 3, 2017.

- *Privacy, Security, and Power: The State of Digital Surveillance*, University of Connecticut School of Law, Hartford, CT, Jan. 27, 2017.
- *Redefining Cybersecurity Policy: An Interdisciplinary Approach to Addressing Systemic Failures*, Graduate School of Public Administration, Seoul National University, Dec. 19, 2016.
- *Redefining Cybersecurity Policy: An Interdisciplinary Approach to Addressing Systemic Failures*, School of Information and Library Sciences, University of North Carolina, Nov. 4, 2016.
- *Roundtable on the Application of International Law to Cyber Conflict* and discussion of Scott Shackelford's *iGovernance: the Future of Multi-Stakeholder Governance in the Wake of the Apple Encryption Saga*, *N.C. J. of Int'l Law* Symposium on Cyberwarfare and International Law, School of Law, University of North Carolina, Nov. 4, 2016.
- *Transatlantic Perspectives of Privacy and Cybersecurity: A Proposal*, Information Society Project Speaker Series, Yale Law School, Oct. 25, 2016 (with Pierluigi Perri).
- *Interdisciplinary Issues in Information Security*, Guest Lecture in CMSC417 (Computer Networks), Dep't of Computer Science, University of Maryland, College Park, MD, Oct. 14, 2016.
- *Cyber Hygiene: The Importance of Recognizing Social Engineering Attacks*, NATO Allied Command Transformation Cybersecurity Awareness Month, NATO ACT Norfolk, VA, Oct. 12, 2016.
- *Cyber Deterrence, Denying Benefit: Whole of Nation Responses*, USCYBERCOM Legal 2016: Cyber National Security – the Law of Cyberspace Confrontation, United States Cyber Command, U.S. Dep't of Defense, Oct. 3-4, 2016.
- *Leveraged Whack-a-Mole: the Need for Interdisciplinary and Cross-Departmental Approaches to Cyber Defense*, TPRC: 44th Research Conference on Communications, Information, and Internet Policy, George Mason University, Sept. 30 – Oct. 1, 2016.
- *Does Cybersecurity Need More Law?*, IEEE Intelligence and Security Informatics 2016, University of Arizona, Sept. 28-30, 2016 (with Derek Bambauer).
- *Cyber Capabilities and the Rules of War*, Blouin Creative Leadership Summit, New York, NY, Sept. 19 – 20, 2016.
- *Chameleon Cyber Threat Intelligence Gathering System*, Briefing to the Commanding General, U.S. Army Network and Enterprise Technology Command, U.S. Dep't of Defense (hosted on campus in Pittsburgh, PA), Sept. 15, 2016.
- *Redefining Cybersecurity*, CyberWeek 2016, Tel Aviv University/Prime Minister's Office National Cyber Bureau, Tel Aviv, Israel, June 19, 2016.
- *Cyber Threat Intelligence Gathering and the Role of the Department of Defense in Modern Cyber Defense*, Briefing to the Commanding General, U.S. Army 7th Signal Command (Theater), U.S. Dep't of Defense, Norfolk, VA, June 8, 2016.
- *Redefining Cybersecurity*, Privacy Law Scholars Conference, George Washington University Law School, June 3, 2016.

- *Chameleon Cyber Threat Intelligence Gathering System*, Briefing to the Assistant Secretary of Defense for Homeland Defense and Global Security, U.S. Dep't of Defense, Arlington, VA, May 23, 2016.
- *Redefining Cybersecurity*, Midwestern Privacy Law Scholars Conference, Ohio State University Moritz College of Law, May 16, 2016.
- *Virtual Briefing on the US-EU Privacy Shield*, University of Pittsburgh European Studies Center, Apr. 12, 2016.
- *Data Breach (Regulatory) Effects*, The States of Security: Data Security Regulation at the State Level – Standards Setting, Benjamin J. Cardozo School of Law, Yeshiva University, Apr. 1, 2016.
- *Redefining Cybersecurity*, "NeBrooklyn" 2016 Workshop for Junior Faculty in Law and Technology, University of Nebraska College of Law, Mar. 25, 2016.
- *Redefining Cybersecurity*, Lastowka Cyberlaw Colloquim, University of Pittsburgh, Pittsburgh, PA, Feb. 5-6, 2016.
- *Cyburgh: Process/Evolution of Security Program Capability Improvement*, CERT/SEI/Carnegie Mellon University, Pittsburgh, PA, Feb. 1, 2016.
- *Chameleon Cyber Threat Intelligence Gathering System*, Briefing to the Principal Deputy Director, Cost Assessment and Program Evaluation, U.S. Dep't of Defense (hosted on campus in Pittsburgh, PA), Jan. 19, 2016.
- *Internet and Computer Law – Once More Unto the Breach: The Law & Policy of Data Breaches*, Annual Meeting of the American Association of Law Schools, New York, NY, Jan. 9, 2016.
- *Catalyzing Privacy By Design: Lessons from Other Areas – Security and Environmental*, Georgetown University Law Center, Washington, DC, Jan. 7, 2016.
- *Redefining Cybersecurity: Risk Management for Global Issues in Cybersecurity*, Hallym University of Graduate Studies, Seoul, Korea, Dec. 22, 2015.
- *Security, Psychology, and the Smart City*, Exposed: Privacy, Security, and the Smart City, Illinois Institute of Technology Chicago-Kent College of Law, Chicago, IL, Nov. 6, 2015.
- *Ancient Worries and Modern Fears*, Yale Law School Conference on Federalism(s) and Fundamental Rights – Europe and the United States Compared, New Haven, CT, Oct. 29 – 31, 2015.
- *Redefining Cybersecurity*, Invited Presentation at the University of Nebraska 8th Annual Space, Cyber, and Telecommunications Conference, Washington, DC, Oct. 29 – 30, 2015.
- *Cybersecurity Stovepiping*, Amsterdam Privacy Conference, Amsterdam, Netherlands, Oct. 23 – 26, 2015.
- *Cybersecurity Stovepiping*, Carnegie Mellon University School of Computer Science, CyLab Usable Privacy and Security Laboratory Seminar Series, Pittsburgh, PA, Oct. 8, 2015.
- *Cyber Security: Public/Private Cooperation, Legal Reforms, Social Norms, and Critical Infrastructure*, Blouin Creative Leadership Summit, New York, NY, Sept. 21 – 22, 2015.
- *Cybersecurity and Privacy in the US and the EU*, Global Legal Developments on the 20th Anniversary of the University of Pittsburgh Center for International Legal Education, Pittsburgh, PA, Sept. 11, 2015.

- *Cybersecurity Stovepiping*, Invited Presentation to the Korea Legislation Research Institute, Sejong City, Korea, Jul. 3, 2015.
- *Cybersecurity Stovepiping*, Privacy Law Scholars Conference, University of California, Berkeley, School of Law, June 4 – 5, 2015.
- *Cybersecurity Stovepiping*, Third Annual Works-in-Progress Roundtable on Law and Computer Science, University of Pennsylvania School of Law, May 12 – 13, 2015.
- *Cybersecurity Stovepiping*, European Union Workshop on e-Administration, Torun, Poland, Apr. 29, 2015.
- *What if Everything Reveals Everything?*, (discussing Prof. Scott Peppet's upcoming book chapter) Information Law Faculty Workshop, Fordham Law School, Apr. 17, 2015.
- *Cybersecurity Workshop*, NSF/Berkeley Center for Law and Technology Working Group on Cybersecurity Law Reform, University of California, Berkeley, School of Law, Apr. 9 – 10, 2015.
- *Cyber Security*, Canada-U.S. Law Institute Conference on "The Digital Border," Case Western Reserve University School of Law, Mar. 19 – 20, 2015.
- *Cybersecurity Stovepiping*, Technology, Innovation, and Intellectual Property Workshop, University of Connecticut School of Law, Mar. 4, 2015.
- *Ancient Worries and Modern Fears*, Computers, Privacy, and Data Protection Conference 2015 (Sponsored by the Information Society Project at Yale Law School), Brussels, Belgium, Jan. 21 – 23, 2015.
- *Cybersecurity Stovepiping*, "NeBrooklyn" 2014 Workshop for Junior Faculty in Law and Technology, Brooklyn Law School, Dec. 4 – 5, 2014.
- *Cybersecurity Laws and Regulations in the Standard-Setting Context*, NIST Workshop on Standards Challenges and Cybersecurity: Implications for Distributed Systems and User Privacy, University of Pittsburgh School of Information Sciences, Nov. 20 – 21, 2014.
- *Cybersecurity Laws and Regulations: From Best Practices to Actual Requirements*, University of Pittsburgh School of Law "Lunch & Learn" Speaker Series, University of Pittsburgh, Nov. 13, 2014.
- *Surveillance at the Source*, Midwestern Privacy Law Scholars Conference, Notre Dame Law School, Oct. 23 – 24, 2014.
- *Surveillance at the Source*, Kentucky Law Journal Symposium on Data Privacy, University of Kentucky College of Law, Oct. 9-10, 2014.
- *Cyber security*, Blouin Creative Leadership Summit, New York, NY, Sept. 24, 2014.
- *Ancient Worries and Modern Fears*, Privacy Law Scholars Conference, George Washington University Law School, June 6, 2014.
- *Military Cyberspace Operations*, Next Generation of NATO Cyber Defense: Second Workshop for Academic Experts, Roundtable Briefing to the NATO Allied Command Transformation Cyber Defence Capability Group, Spain, Mar. 30 – Apr. 4, 2014.

- *Regulating Big Data in Urban Governance*, Smart Law for Smarter Cities: Regulation, Technology, and the Future of Cities, Fordham University School of Law, Feb. 27 – 28, 2014.
- *Engaging Private Expertise in Regulating Information Security*, 30th Annual Information Technology Conference, Jon. M. Huntsman School of Business, Utah State University, Feb. 25, 2014.
- *Military Cyberspace Operations*, Next Generation of NATO Cyber Defense: Workshop for Academic Experts, Roundtable Briefing to the NATO Allied Command Transformation Cyber Defence Capability Group, National Defense University, Washington, DC, Nov. 20, 2013.
- *Military Cyberspace Operations*, Briefing to the Office of the Deputy Assistant Secretary of Defense for Cyberspace Policy Operations, U.S. Dep't of Defense, Arlington, VA, Nov. 7, 2013.
- *The Efficacy of Cybersecurity Regulation: Examining the Impact of Law on Security Practices*, LISA '13: 27th Large Installation System Administration Conference, USENIX: The Advanced Computing Association, Washington, DC, Nov. 7, 2013.
- *Military Cyberspace Operations*, International Roundtable on Internet Governance & Cyber Conflicts: Models, Regulations, & Confidence Building Measures, SUNY Albany/Moscow State University, New York, NY, Oct. 31 – Nov. 1, 2013.
- *Domestic Law, Policy, and Regulation: Intellectual Property and Torts – Cybercrime Reform Proposals*, Cyber Threats & Cyber Realities Conference, Roger Williams University Law School, June 17, 2013.
- *Criminalizing Hacking, Not Dating: Reconstructing the CFAA Intent Requirement*, Privacy Law Scholars Conference, University of California, Berkeley, School of Law, June 6, 2013.
- *The Computer Fraud and Abuse Act: The Statute That Took Over the Internet, And Why You Should Care*, Yale Law School, Apr. 8, 2013.
- *Criminalizing Hacking, Not Dating: Reconstructing the CFAA Intent Requirement*, Symposium on Cybercrime, Northwestern University Law School, Feb. 1, 2013.
- *The Efficacy of Cybersecurity Regulation*, Cyberscholars Workshop: Remixing Research, Harvard Law School, Dec. 6, 2012.
- *The Efficacy of Cybersecurity Regulation*, Dep't of Computer Science Faculty Colloquium, Worcester Polytechnic Institute, Nov. 30, 2012.
- *Comparing Management-Based Regulation and Prescriptive Legislation: How to Improve Information Security Through Regulation*, Privacy Law Scholars Conference, George Washington University Law School, June 7, 2012.
- *Overview of Cybersecurity Laws, Regulations, and Policies: From "Best Practices" to Actual Requirements*, University of Maryland Cybersecurity Center Annual Symposium, University of Maryland, College Park, May 16, 2012.
- *Comparing Management-Based Regulation and Prescriptive Legislation: How to Improve Information Security Through Regulation*, Cyberscholars Workshop, Columbia University, Mar. 27, 2012.

- *The Relationship Between Regulatory Models and Information Security Practices*, Privacy Law Scholars Conference, George Washington University Law School, June 3, 2010.

OTHER PROFESSIONAL EXPERIENCE

- **3KSoftware**, Seoul, KR
Advisor, April 2018 – Present
Member of corporate advisory board for an international blockchain integration company.
- **PAX Datatech**, Seoul, KR and Singapore
Advisor, January 2018 – Present
Member of corporate advisory board for an international blockchain company.
- **ELPIS, the Center for IoT Security**, Washington, DC
Board Member, January 2018 – Present
Founding Board Member of a cybersecurity coordination non-profit organization.
- **AlphaTrek, Inc.**, College Park, MD
Special Counsel, October 2012 – October 2016
(Non-employee) role functionally providing the services of a general counsel to location-based security services startup.
- **YellowHat Laboratories, Inc.**, College Park, MD, Washington, DC and Honolulu, HI
Chief Scientist and Special Counsel, July 2012 – July 2014
Executive Vice-President and Chief Technology Officer, July 2011 – June 2012
Part of core management team for a cybersecurity startup. Responsible for overseeing all technical development.
- **Hogan Lovells US LLP** (formerly Hogan & Hartson LLP), Washington, DC
Attorney, Privacy and Information Management Practice, January 2010 – December 2010
Advised clients on privacy and cybersecurity issues, including comprehensive assessments of organizations' privacy and data security practices, drafting privacy policies and security plans, and providing privacy/security regulatory compliance advice.
- **International Computer Science Institute**, Berkeley, CA
Graduate Student Researcher, July 2003 – May 2008
Conducted research to develop a web-based content management and collaboration system for non-technical users.
- **Dewey & LeBoeuf LLP** (formerly LeBoeuf, Lamb, Greene & MacRae LLP), New York, NY
Summer Associate, Summer 2007
- **United States District Court for the Southern District of New York**, New York, NY
Law Intern to the Honorable Victor Marrero (U.S. District Judge), Summer 2006
- **Samuelson Law, Technology, and Public Policy Clinic**, Berkeley, CA
Legal Intern/Technology Researcher, December 2004 – May 2008
- **Carvel Corporation**, Farmington, CT
Webmaster, December 1997 – May 2004
- **Beacon Corporation**, College Park, MD
Director, Beacon Project and Laboratory, December 1998 – June 2001
One of three founders of a research project to develop a marketable wireless emergency location device for college campuses.

- **United Technologies Corporation**, Farmington, CT/Hartford, CT
Information Technology Intern, Summer 2000, Summer 2001, Summer 2002

TEACHING AND RESEARCH INTERESTS

Teaching Interests

- **Law:** Cybersecurity, Administrative Law, Cybercrime, Privacy, Internet Law/Cyberlaw, Criminal Law
- **Computer/Information Science:** Cybersecurity, Cybersecurity Empirics, Security Risk Assessment and Management, Empirical Methods, Networking
- **Other Law School Courses Taught:** Criminal Procedure, Civil Procedure, Constitutional Law
- **Other Computer/Information Science Courses Taught:** Laboratory for Cybersecurity Experimentation (Lab Course for the CyREN Laboratory), Exploring Cybersecurity Law

Teaching Experience

- **University of Pittsburgh** (School of Law / School of Computing and Information)
Administrative Law, Cybersecurity and Privacy Regulation, Cybercrime, Laboratory for Cybersecurity Experimentation
- **University of Pittsburgh** (College in High School Program)
Cybersecurity and the Law
- **Hallym University of Graduate Studies / University of Connecticut** (Department of American Law, Seoul, Korea)
Constitutional Law (Summer 2014, Summer 2015), Administrative Law (Winter 2014-2015), Criminal Law (Winter 2015-2016, Winter 2016-2017, Winter 2017-2018), Civil Procedure (Winter 2017-2018), Criminal Procedure (Winter 2017-2018)
- **Università degli Studi di Milano** (Department of Law "Cesare Beccaria," Milan, Italy)
Seminar Series in Cyberlaw (Summer 2016)
- **University of Connecticut School of Law**
Administrative Law, Cybersecurity and Privacy Regulation, Cybercrime, Criminal Law
- **University of Maryland Department of Computer Science/Honors College**
Exploring Cybersecurity Law

BAR ADMISSIONS

Connecticut (2008), District of Columbia (2010), New York (2009), United States Supreme Court (2013)

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