**TYLER MOORE**
**Tandy Professor of Cyber Security and Information Assurance**
**School of Cyber Studies, College of Engineering & Computer Science**
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## Experience

**Professor of Cyber Studies** (with tenure),
The University of Tulsa, Tulsa, OK, *2021 – present*

**Chairperson, School of Cyber Studies**
The University of Tulsa, Tulsa, OK, *2021 – present*

**Professor of Computer Science** (with tenure),
The University of Tulsa, Tulsa, OK, *2020 – present*

**Associate Professor of Computer Science** (with tenure),
The University of Tulsa, Tulsa, OK, *2018 – 2020*

**Faculty Director, MS in Cyber Security Professional Track**
The University of Tulsa, Tulsa, OK, *2017 – 2021*

**Assistant Professor of Computer Science**
The University of Tulsa, Tulsa, OK, *2015 – 2018*

**Tandy Endowed Chair of Cyber Security and Information Assurance**
The University of Tulsa, Tulsa, OK, *2015 – present*

**Assistant Professor of Computer Science and Engineering**,
Southern Methodist University, Dallas, TX, *2012 – 2015*

**Norma Wilentz Hess Visiting Assistant Professor of Computer Science**,
Wellesley College, Wellesley, MA, *2011 – 2012*

**Visiting Scholar**, Wellesley College, Wellesley, MA, *2010 – 2011*

**Postdoctoral Fellow**, Center for Research on Computation and Society,
Harvard University, Cambridge, MA, *2008 – 2011*

## Education

**Ph.D. (Computer Science)**, University of Cambridge, St. John's College, UK, *2008*
Thesis: 'Cooperative attack and defense in distributed networks'
Supervisor: Prof. Ross Anderson FRS

**B.S. (Computer Science)**, The University of Tulsa, OK, USA, *2004 Summa Cum Laude*

**B.S. (Applied Mathematics)**, The University of Tulsa, OK, USA, *2004 Summa Cum Laude*

## Research Specialties

Security Economics, Cybercrime Measurement, Cybersecurity Policy, Cryptocurrencies

## Fellowships and Awards

**Outstanding Researcher Award**, The University of Tulsa, 2025

**Best Paper Award**, International Workshop on Cyber Crime, 2014

**Best Paper Award**, 7th Anti-Phishing Working Group eCrime Researchers Summit, 2012

**Inaugural Gordon Prize in Managing Cybersecurity Resources**, 2009

**Publication of the Year**, University of Cambridge Computer Laboratory, 2008
**Best Paper Award**, 2nd Anti-Phishing Working Group eCrime Researchers Summit, 2007
**Best Paper Award**, 4th European Workshop on Security and Privacy in Ad-hoc and Sensor Networks, 2007

**Zelimir Schmidt Award for Outstanding Research**, The University of Tulsa, 2018
**Cybersecurity Fellow**, New America, 2016–17
**Ralph E. Powe Junior Faculty Enhancement Award**, 2014
**Marshall Scholarship**, 2004–2007
**US National Science Foundation Graduate Research Fellowship**, 2004–2008
**Goldwater Scholarship**, 2003

## Refereed Journal Articles

[1] Seth Hastings, Tyler Moore, Neil Gandal, and Noa Barnir. Quantifying costs of enhanced security in multifactor authentication. *Information Systems Frontiers*, (to appear), 2025.

[2] Noa Barnir, Neil Gandal, Tyler Moore, and Vincent Scott. A cost-benefit approach to optimizing security control adoption. *Information and Computer Security*, (to appear), 2025.

[3] Matthew Adams and Tyler Moore. How informative are cybersecurity risk disclosures? empirical analysis of firms targeted by ransomware. *Computers & Security*, (to appear), 2025.

[4] Neil Gandal, Tyler Moore, Michael Riordan, and Noa Barnir. Empirically evaluating the effect of security precautions on cyber incidents. *Computers & Security*, 103380, 2023.

[5] Daniel W. Woods, Tyler Moore, and Andrew C. Simpson. The county fair cyber loss distribution: Drawing inferences from insurance prices. *Digital Threats: Research and Practice*, 2(2), April 2021.

[6] J.T. Hamrick, Farhang Rouhi, Arghya Mukherjee, Amir Feder, Neil Gandal, Tyler Moore, and Marie Vasek. An examination of the cryptocurrency pump-and-dump ecosystem. *Information Processing & Management*, 58(4):102506, 2021.

[7] Neil Gandal, J. T. Hamrick, Tyler Moore, and Marie Vasek. The rise and fall of cryptocurrency coins and tokens. *Decisions in Economics and Finance*, June 2021.

[8] Daniel W. Woods and Tyler Moore. Does insurance have a future in governing cybersecurity? *IEEE Security & Privacy*, 18(1), 2020.

[9] Daniel W. Woods and Tyler Moore. Cyber warranties: market fix or marketing trick? *Communications of the ACM*, 63(4):104–107, 2020.

[10] Rainer Böhme, Lisa Eckey, Tyler Moore, Neha Narula, Tim Ruffing, and Aviv Zohar. Responsible vulnerability disclosure in cryptocurrencies. *Communications of the ACM*, 63(10):62–71, 2020.

[11] Tyler Moore, Nicolas Christin, and Janos Szurdi. Revisiting the risks of bitcoin currency exchange closure. *ACM Transactions on Internet Technology*, 18(4):50:1–50:18, September 2018.

[12] Neil Gandal, JT Hamrick, Tyler Moore, and Tali Obermann. Price manipulation in the Bitcoin ecosystem. *Journal of Monetary Economics*, 95:86–96, May 2018.

[13] Joshua Rovner and Tyler Moore. Does the internet need a hegemon? *Journal of Global Security Studies*, 2(3):184–203, 2017.

[14] Mohammad Hanif Jhaveri, Orcun Cetin, Carlos Gañán, Tyler Moore, and Michel Van Eeten. Abuse reporting and the fight against cybercrime. *ACM Computing Surveys (CSUR)*, 49(4):68, 2017.

[15] Jake Drew, Michael Hahsler, and Tyler Moore. Polymorphic malware detection using sequence classification methods and ensembles. *EURASIP Journal on Information Security*, 2017(1):2, 2017.

[16] Marie Vasek, John Wadleigh, and Tyler Moore. Hacking is not random: a case-control study of webserver-compromise risk. *IEEE Transactions on Dependable and Secure Computing*, 13(2):206–219, 2016.

[17] Markus Riek, Rainer Böhme, and Tyler Moore. Measuring the influence of perceived cybercrime risk on online service avoidance. *IEEE Transactions on Dependable and Secure Computing*, 13(2):261–273, 2016.

[18] Orcun Cetin, Mohammad Hanif Jhaveri, Carlos Gañán, Michel van Eeten, and Tyler Moore. Understanding the role of sender reputation in abuse reporting and cleanup. *Journal of Cybersecurity*, 2(1):83–98, 2016.

[19] Rainer Böhme and Tyler Moore. The "iterated weakest link" model of adaptive security investment. *Journal of Information Security*, 7(2):81–102, 2016.

[20] Rainer Böhme, Nicolas Christin, Benjamin Edelman, and Tyler Moore. Bitcoin: Economics, technology, and governance. *Journal of Economic Perspectives*, 29(2):213–38, 2015.

[21] Jake Drew and Tyler Moore. Optimized combined clustering methods for finding replicated criminal websites. *EURASIP Journal on Information Security*, 2014(14), 2014.

[22] Steve Papa, William Casper, and Tyler Moore. Securing wastewater facilities from accidental and intentional harm: a cost-benefit analysis. *International Journal of Critical Infrastructure Protection*, 6(2):96–106, 2013.

[23] Susan Landau and Tyler Moore. Economic tussles in federated identity management. *First Monday*, 17(10), 2012.

[24] Tyler Moore and Richard Clayton. The impact of public information on phishing attack and defense. *Communications & Strategies*, 1(81):45–68, 1st quart 2011.

[25] Tal Moran and Tyler Moore. The phish-market protocol: Secure sharing between competitors. *IEEE Security & Privacy*, 8(4):40–45, 2010.

[26] Tyler Moore. The economics of cybersecurity: Principles and policy options. *International Journal of Critical Infrastructure Protection*, 3(3–4):103 – 117, 2010.

[27] Rainer Böhme and Tyler Moore. The iterated weakest link. *IEEE Security & Privacy*, 8(1):53–55, 2010.

[28] Tyler Moore, Richard Clayton, and Ross Anderson. The economics of online crime. *Journal of Economic Perspectives*, 23(3):3–20, Summer 2009.

[29] Jolyon Clulow and Tyler Moore. Suicide for the common good: a new strategy for credential revocation in self-organizing systems. *Operating Systems Review*, 40(3):18–21, 2006.

[30] Ross Anderson and Tyler Moore. The economics of information security. *Science*, 314(5799):610–613, 2006.

## Refereed Conference Papers

[1] Arghya Mukherjee and Tyler Moore. Beyond the hype: Empirical evaluation of cryptocurrency unicorn success. In *58th Hawaii International Conference on System Sciences (HICSS)*, 2025.

[2] Andrew Morin and Tyler Moore. "Spot to the future" attacks on cryptocurrency derivative markets. In *Workshop on the Economics of Information Security (WEIS)*, 2025.

[3] Tyler Moore. Stopping advance-payment scams in advance. In *International Workshop on Security Protocols (SPW)*, 2025.

[4] Dmytro Kashchuk and Tyler Moore. Measuring enterprise software supply chain security using public repositories. In *ACM Workshop on Software Supply Chain Offensive Research and Ecosystem Defenses (SCORED '25)*, 2025.

[5] Seth Hastings, Tyler Moore, Neil Gandal, and Noa Barnir. Quantifying opportunity costs of enhanced security in multifactor authentication. In *Workshop on the Economics of Information Security (WEIS)*, 2025.

[6] Seth Hastings and Tyler Moore. Authentication-event processing for enhanced soc investigations. In *Workshop on SOC Operations and Construction (WOSOC)*. Internet Society, 2025.

[7] Corey Bolger and Tyler Moore. Expanding the scope: An empirical approach for identifying high-risk users. In *Workshop on the Economics of Information Security (WEIS)*, 2025.

[8] Geoffrey Simpson and Tyler Moore. Identifying subdomain doppelganger attacks against companies. In *57th Hawaii International Conference on System Sciences (HICSS)*, pages 7387–7896, 2024.

[9] Samantha Phillips, Bradley Brummel, Sal Aurigemma, and Tyler Moore. Measuring dimensions of information security culture across industries with situational judgement tests. In *16th IFIP WG 8.11/11.13 Dewald Roode Workshop on Information Systems Security Research*, 2024.

[10] Samantha Phillips, Sal Aurigemma, Bradley Brummel, and Tyler Moore. Leveraging situational judgment tests to measure behavioral information security. In *57th Hawaii International Conference on System Sciences (HICSS)*, pages 4714–4723, 2024.

[11] Alex Howe, Andrew Morin, Mauricio Papa, and Tyler Moore. A cost-sensitive approach for managing intrusion alerts in OT environments. In *The 19th International Conference on Critical Information Infrastructures Security (CRITIS)*, 2024.

[12] Seth Hastings, Tyler Moore Bradley Brummel, and Sal Aurigemma. The influence of security related stress and self-efficacy on actual security behaviors over time. In *16th IFIP WG 8.11/11.13 Dewald Roode Workshop on Information Systems Security Research*, 2024.

[13] Seth Hastings, Corey Bolger, Philip Shumway, and Tyler Moore. Transforming raw authentication logs into interpretable events. In *Workshop on SOC Operations and Construction (WOSOC)*. Internet Society, 2024.

[14] Abulfaz Hajizada, Matthew Adams, and Tyler Moore. Construction and analysis of a large-scale firm-level cybersecurity posture dataset. In *30th Americas Conference on Information Systems (AMCIS)*, 2024.

[15] Vincent Gonzales, Andrew Morin, and Tyler Moore. Cost-benefit framework for secure smart installations. In *4th IEEE Cyber Awareness and Research Symposium (CARS)*, 2024.

[16] Philip Shumway, Bradley Brummel, Tyler Moore, and Sal Aurigemma. Naturalistic observations of login attempts: Do security implementations and demands affect employee job behaviors and perceptions? In *22nd Annual Security Conference (ASC)*, 2023.

[17] Samantha Phillips, Bradley Brummel, Sal Aurigemma, and Tyler Moore. Information security culture: A look ahead at measurement methods. In *22nd Annual Security Conference (ASC)*, 2023.

[18] Andrew Morin and Tyler Moore. How cryptocurrency exchange interruptions create arbitrage opportunities. In *IEEE European Symposium on Security and Privacy Workshops (EuroS&PW)*, pages 207–215. IEEE, 2023.

[19] Seth Hastings, Tyler Moore, Sal Aurigemma, and Bradley Brummel. Predicting authentication performance with psychological constructs. In *22nd Annual Security Conference (ASC)*, 2023.

[20] Abulfaz Hajizada and Tyler Moore. On gaps in enterprise cyber attack reporting. In *IEEE European Symposium on Security and Privacy Workshops (EuroS&PW)*, pages 227–231. IEEE, 2023.

[21] Corey Bolger, Bradley Brummel, Sal Aurigemma, Tyler Moore, and Meagan Baskin. Information security awareness: Identifying gaps in current measurement tools. In *22nd Annual Security Conference (ASC)*, 2023.

[22] Jonathan Codi West and Tyler Moore. Longitudinal study of internet-facing OpenSSH update patterns. In Oliver Hohlfeld, Giovane Moura, and Cristel Pelsser,

editors, *Passive and Active Measurement*, volume 13210 of *Lecture Notes in Computer Science*, pages 675–689, Cham, 2022. Springer.

[23] Gilberto Atondo Siu, Alice Hutchings, Marie Vasek, and Tyler Moore. "invest in crypto!": An analysis of investment scam advertisements found in bitcointalk. In *APWG Symposium on Electronic Crime Research (eCrime)*, pages 1–12, 2022.

[24] Arghya Mukherjee and Tyler Moore. Cryptocurrency exchange closure revisited (again). In *APWG Symposium on Electronic Crime Research (eCrime)*, pages 1–8, 2022.

[25] Andrew Morin, Tyler Moore, and Eric Olson. Breaking the stablecoin buck: Measuring the impact of security breach and liquidation shocks. In *21st Workshop on the Economics of Information Security (WEIS)*, 2022.

[26] Andrew Morin and Tyler Moore. Towards cost-balanced intrusion detection in OT environments. In *IEEE Conference on Communications and Network Security (CNS) Cyber Resilience Workshop*, pages 1–6, 2022.

[27] Matthew Vermeer, Jonathan West, Alejandro Cuevas, Shuonan Niu, Nicolas Christin, Michel van Eeten, Tobias Fiebig, Carlos Gañán, and Tyler Moore. SoK: A framework for asset discovery: Systematizing advances in network measurements for protecting organizations. In *Proceedings of the 6th IEEE European Symposium on Security and Privacy (Euro S&P'21)*, Vienna, Austria (online), September 2021.

[28] Andrew Morin, Marie Vasek, and Tyler Moore. Detecting text reuse in cryptocurrency whitepapers. In *IEEE International Conference on Blockchain and Cryptocurrency, ICBC 2021, Sydney, Australia, May 3-6, 2021*, pages 1–5. IEEE, 2021.

[29] JT Hamrick, Farhang Rouhi, Arghya Mukherjee, Marie Vasek, Tyler Moore, and Neil Gandal. Analyzing target-based cryptocurrency pump and dump schemes. In *ACM CCS Workshop on Decentralized Finance and Security*, 2021.

[30] Geoffrey Simpson, Tyler Moore, and Richard Clayton. Ten years of attacks on companies using visual impersonation of domain names. In *APWG Symposium on Electronic Crime Research (eCrime)*. IEEE, 2020.

[31] Geoffrey Simpson and Tyler Moore. Empirical analysis of losses from business-email compromise. In *APWG Symposium on Electronic Crime Research (eCrime)*. IEEE, 2020.

[32] Daniel W. Woods, Tyler Moore, and Andrew C. Simpson. The county fair cyber loss distribution: Drawing inferences from insurance prices. In *18th Workshop on the Economics of Information Security (WEIS)*, 2019.

[33] Tyler Moore, Erin Kenneally, Michael Collett, and Prakash Thapa. Valuing cybersecurity research datasets. In *18th Workshop on the Economics of Information Security (WEIS)*, 2019.

[34] JT Hamrick, Farhang Rouhi, Arghya Mukherjee, Amir Feder, Neil Gandal, Tyler Moore, Marie Vasek, Neil Gandal, and Marie Vasek. The economics of cryptocurrency pump and dump schemes. In *18th Workshop on the Economics of Information Security (WEIS)*, 2019.

[35] Ross Anderson, Chris Barton, Rainer Böhme, Richard Clayton, Carlos Gañán, Tom Grasso, Michael Levi, Tyler Moore, Stefan Savage, and Marie Vasek. Measuring the changing cost of cybercrime. In *18th Workshop on the Economics of Information Security (WEIS)*, 2019.

[36] Muwei Zheng, Hannah Robbins, Zimo Chai, Prakash Thapa, and Tyler Moore. Cybersecurity research datasets: Taxonomy and empirical analysis. In *11th USENIX Workshop on Cyber Security Experimentation and Test (CSET 18)*, Baltimore, MD, 2018. USENIX Association.

[37] Marie Vasek and Tyler Moore. Analyzing the Bitcoin Ponzi scheme ecosystem. In *Fifth Workshop on Bitcoin and Blockchain Research*, Lecture Notes in Computer Science. Springer, 2018.

[38] B. Johnson, A. Laszka, J. Grossklags, and T. Moore. Economic analyses of security investments on cryptocurrency exchanges. In *IEEE International Conference on Blockchain (BLOCKCHAIN)*, pages 1253–1262, July 2018.

[39] Amir Feder, Neil Gandal, JT Hamrick, Tyler Moore, and Marie Vasek. The rise and fall of cryptocurrencies. In *17th Workshop on the Economics of Information Security (WEIS)*, 2018.

[40] Samaneh Tajalizadehkhoob, Tom van Goethem, Maciej Korczyński, Arman Noroozian, Rainer Böhme, Tyler Moore, Wouter Joosen, and Michel van Eeten. Herding vulnerable cats: A statistical approach to disentangle joint responsibility for web security in shared hosting. In *ACM SIGSAC Conference on Computer and Communications Security*, CCS '17. ACM, 2017.

[41] Jonathan M. Spring, Tyler Moore, and David Pym. Practicing a science of security: A philosophy of science perspective. In *New Security Paradigms Workshop (NSPW)*. ACM, 2017.

[42] Neil Gandal, JT Hamrick, Tyler Moore, and Tali Oberman. Price manipulation in the Bitcoin ecosystem. In *16th Workshop on the Economics of Information Security (WEIS)*, 2017.

[43] Marie Vasek, Matthew Weeden, and Tyler Moore. Measuring the impact of sharing abuse data with web hosting providers. In *ACM Workshop on Information Sharing and Collaborative Security*, pages 71–80. ACM, 2016.

[44] Marie Vasek, Joseph Bonneau, Ryan Castellucci, Cameron Keith, and Tyler Moore. The Bitcoin brain drain: Examining the use and abuse of Bitcoin brain wallets. In Jens Grossklags and Bart Preneel, editors, *Financial Cryptography and Data Security*, volume 9603 of *Lecture Notes in Computer Science*, pages 609–618. Springer, 2016.

[45] Tyler Moore, Scott Dynes, and Frederick Chang. Identifying how firms manage cybersecurity investment. In *15th Workshop on the Economics of Information Security (WEIS)*, 2016.

[46] Amir Feder, Neil Gandal, JT Hamrick, and Tyler Moore. The impact of DDoS and other security shocks on Bitcoin currency exchanges: Evidence from Mt. Gox. In *15th Workshop on the Economics of Information Security (WEIS)*, 2016.

[47] Jake Drew, Michael Hahsler, and Tyler Moore. Polymorphic malware detection using sequence classification methods. In *Workshop on Bio-inspired Security, Trust, Assurance and Resilience (BioStar), IEEE Security and Privacy Workshops (SPW)*, pages 81–87. IEEE, May 2016.

[48] John Wadleigh, Jake Drew, and Tyler Moore. The e-commerce market for "lemons": Identification and analysis of websites selling counterfeit goods. In *International World Wide Web Conference (Security and Privacy Track)*, pages 1188–1197. ACM, May 2015.

[49] Marie Vasek and Tyler Moore. There's no free lunch, even using Bitcoin: Tracking the popularity and profits of virtual currency scams. In Rainer Böhme and Tatsuaki Okamoto, editors, *Financial Cryptography and Data Security*, volume 8975 of *Lecture Notes in Computer Science*, pages 44–61. Springer, January 2015.

[50] Tyler Moore and Richard Clayton. Which malware lures work best? measurements from a large instant messaging worm. In *APWG Symposium on Electronic Crime Research (eCrime)*, pages 69–78. IEEE, 2015.

[51] Richard Clayton, Tyler Moore, and Nicolas Christin. Concentrating correctly on cybercrime concentration. In *14th Workshop on the Economics of Information Security*, 2015.

[52] Orcun Cetin, Mohammad Hanif Jhaveri, Carlos Gañán, Michel van Eeten, and Tyler Moore. Understanding the role of sender reputation in abuse reporting and cleanup. In *14th Workshop on the Economics of Information Security*, 2015.

[53] Marie Vasek, Micah Thornton, and Tyler Moore. Empirical analysis of denial-of-service attacks in the Bitcoin ecosystem. In *1st Workshop on Bitcoin Research*, volume 8438 of *Lecture Notes in Computer Science*, pages 57–71. Springer, March 2014.

[54] Marie Vasek and Tyler Moore. Identifying risk factors for webserver compromise. In *Financial Cryptography and Data Security*, volume 8437 of *Lecture Notes in Computer Science*, pages 326–345. Springer, March 2014.

[55] Markus Riek, Rainer Böhme, and Tyler Moore. Understanding the influence of cybercrime risk on the e-service adoption of European Internet users. In *13th Workshop on the Economics of Information Security (WEIS)*, 2014.

[56] Tyler Moore and Richard Clayton. The ghosts of banking past: Empirical analysis of closed bank websites. In *Financial Cryptography and Data Security*, volume 8437 of *Lecture Notes in Computer Science*, pages 33–48. Springer, March 2014.

[57] Nektarios Leontiadis, Tyler Moore, and Nicolas Christin. A nearly four-year longitudinal study of search-engine poisoning. In *Proceedings of the 2014 ACM SIGSAC Conference on Computer and Communications Security*, CCS '14, pages 930–941. ACM, 2014.

[58] Benjamin Johnson, Aron Laszka, Jens Grossklags, Marie Vasek, and Tyler Moore. Game-theoretic analysis of DDoS attacks against Bitcoin mining pools. In *1st Workshop on Bitcoin Research*, volume 8438 of *Lecture Notes in Computer Science*, pages 72–86. Springer, March 2014.

[59] Jake Drew and Tyler Moore. Automatic identification of replicated criminal websites using combined clustering. In *International Workshop on Cyber Crime (IWCC), IEEE Security and Privacy Workshops*. IEEE, 2014.

[60] Marie Vasek and Tyler Moore. Empirical analysis of factors affecting malware URL detection. In *8th APWG eCrime Researchers Summit (eCrime)*, September 2013.

[61] Tyler Moore and Nicolas Christin. Beware the middleman: Empirical analysis of Bitcoin-exchange risk. In *Financial Cryptography and Data Security*, volume 7859 of *Lecture Notes in Computer Science*, pages 25–33. Springer, April 2013.

[62] Nektarios Leontiadis, Tyler Moore, and Nicolas Christin. Pick your poison: Pricing and inventories at unlicensed online pharmacies. In *ACM Conference on Electronic Commerce (EC)*, pages 621–638. ACM, June 2013.

[63] Marie Vasek and Tyler Moore. Do malware reports expedite cleanup? An experimental study. In *Proceedings of the 5th USENIX Workshop on Cyber Security Experimentation and Test*, CSET'12, Berkeley, CA, USA, 2012. USENIX Association.

[64] Tyler Moore, Jie Han, and Richard Clayton. The postmodern Ponzi scheme: Empirical analysis of high-yield investment programs. In Angelos D. Keromytis, editor, *Financial Cryptography and Data Security*, volume 7397 of *Lecture Notes in Computer Science*, pages 41–56. Springer, 2012.

[65] Tyler Moore and Richard Clayton. Discovering phishing dropboxes using email metadata. In *7th APWG eCrime Researchers Summit (eCrime)*, October 2012.

[66] Benjamin Edwards, Tyler Moore, George Stelle, Steven A. Hofmeyr, and Stephanie Forrest. Beyond the blacklist: Modeling malware spread and the effect of interventions. In *Proceedings of the New Security Paradigms Workshop, Bertinoro, Italy, September 19-21, 2012*. ACM, 2012.

[67] Rainer Böhme and Tyler Moore. How do consumers react to cybercrime? In *APWG eCrime Researchers Summit (eCrime)*, October 2012.

[68] Ross Anderson, Chris Barton, Rainer Böhme, Richard Clayton, Michael van Eeten, Michael Levi, Tyler Moore, and Stefan Savage. Measuring the cost of cybercrime. In *11th Workshop on the Economics of Information Security (WEIS)*, 2012.

[69] Tyler Moore, Nektarios Leontiadis, and Nicolas Christin. Fashion crimes: trending-term exploitation on the web. In Yan Chen, George Danezis, and Vitaly Shmatikov, editors, *ACM Conference on Computer and Communications Security (CCS)*, pages 455–466. ACM, 2011.

[70] Tyler Moore and Richard Clayton. Ethical dilemmas in take-down research. In George Danezis, Sven Dietrich, and Kazue Sako, editors, *Workshop on the Ethics of Computer Security Research (Financial Cryptography Workshops)*, volume 7126 of *Lecture Notes in Computer Science*, pages 154–168. Springer, 2011.

[71] Nektarios Leontiadis, Tyler Moore, and Nicolas Christin. Measuring and analyzing search-redirection attacks in the illicit online prescription drug trade. In *USENIX Security Symposium*. USENIX Association, 2011.

[72] Susan Landau and Tyler Moore. Economic tussles in federated identity management. In *10th Workshop on the Economics of Information Security (WEIS)*, 2011.

[73] Steven A. Hofmeyr, Tyler Moore, Stephanie Forrest, Benjamin Edwards, and George Stelle. Modeling internet-scale policies for cleaning up malware. In *10th Workshop on the Economics of Information Security (WEIS)*, 2011.

[74] Tal Moran and Tyler Moore. The phish-market protocol: Securely sharing attack data between competitors. In Radu Sion, editor, *Financial Cryptography and Data Security*, volume 6052 of *Lecture Notes in Computer Science*, pages 222–237. Springer, 2010.

[75] Tyler Moore, Allan Friedman, and Ariel D. Procaccia. Would a 'cyber warrior' protect us: exploring trade-offs between attack and defense of information systems. In Angelos D. Keromytis, Sean Peisert, Richard Ford, and Carrie Gates, editors, *New Security Paradigms Workshop (NSPW)*, pages 85–94. ACM, 2010.

[76] Tyler Moore and Benjamin Edelman. Measuring the perpetrators and funders of typosquatting. In Radu Sion, editor, *Financial Cryptography and Data Security*, volume 6052 of *Lecture Notes in Computer Science*, pages 175–191. Springer, 2010.

[77] Tyler Moore, Richard Clayton, and Henry Stern. Temporal correlations between spam and phishing websites. In *Proceedings of the 2nd USENIX conference on Large-scale exploits and emergent threats: botnets, spyware, worms, and more*, LEET'09, Berkeley, CA, USA, 2009. USENIX Association.

[78] Tyler Moore and Richard Clayton. Evil searching: Compromise and recompromise of internet hosts for phishing. In Roger Dingledine and Philippe Golle, editors, *Financial Cryptography and Data Security*, volume 5628 of *Lecture Notes in Computer Science*, pages 256–272. Springer, 2009.

[79] Rainer Böhme and Tyler Moore. The iterated weakest link - a model of adaptive security investment. In *8th Workshop on the Economics of Information Security (WEIS)*, 2009.

[80] Tyler Moore, Maxim Raya, Jolyon Clulow, Panagiotis Papadimitratos, Ross Anderson, and Jean-Pierre Hubaux. Fast exclusion of errant devices from vehicular networks. In *Proceedings of the Fifth Annual IEEE Communications Society Conference on Sensor, Mesh and Ad Hoc Communications and Networks (SECON)*, pages 135–143, 2008.

[81] Tyler Moore and Richard Clayton. Evaluating the wisdom of crowds in assessing phishing websites. In Gene Tsudik, editor, *Financial Cryptography and Data Security*, volume 5143 of *Lecture Notes in Computer Science*, pages 16–30. Springer, 2008.

[82] Tyler Moore and Richard Clayton. The consequence of non-cooperation in the fight against phishing. In *APWG eCrime Researchers Summit*, pages 1–14. IEEE, 2008.

[83] Tyler Moore, Jolyon Clulow, Shishir Nagaraja, and Ross Anderson. New strategies for revocation in ad-hoc networks. In Frank Stajano, Catherine Meadows, Srdjan Capkun, and Tyler Moore, editors, *4th European Workshop on Security and Privacy in Ad-hoc and Sensor Networks (ESAS)*, volume 4572 of *Lecture Notes in Computer Science*, pages 232–246. Springer, 2007.

[84] Tyler Moore and Jolyon Clulow. Secure path-key revocation for symmetric key predistribution schemes in sensor networks. In Hein S. Venter, Mariki M. Eloff, Les Labuschagne, Jan H. P. Eloff, and Rossouw von Solms, editors, *Proceedings of the IFIP TC-11 22nd International Information Security Conference (IFIP SEC)*, volume 232 of *IFIP*, pages 157–168. Springer, 2007.

[85] Tyler Moore and Richard Clayton. Examining the impact of website take-down on phishing. In Lorrie Faith Cranor, editor, *APWG eCrime Researchers Summit*, volume 269 of *ACM International Conference Proceeding Series*, pages 1–13. ACM, 2007.

[86] Tyler Moore and Richard Clayton. An empirical analysis of the current state of phishing attack and defence. In *6th Workshop on the Economics of Information Security (WEIS)*, 2007.

[87] Tyler Moore. The economics of digital forensics. In *5th Workshop on the Economics of Information Security (WEIS)*, 2006.

[88] Tyler Moore. A collusion attack on pairwise key predistribution schemes for distributed sensor networks. In *4th IEEE Conference on Pervasive Computing and Communications Security (PerSec)*, pages 251–255. IEEE Computer Society, 2006.

[89] Jolyon Clulow, Gerhard P. Hancke, Markus G. Kuhn, and Tyler Moore. So near and yet so far: Distance-bounding attacks in wireless networks. In Levente Buttyán, Virgil D. Gligor, and Dirk Westhoff, editors, *3rd European Workshop on Security and Privacy in Ad-hoc and Sensor Networks (ESAS)*, volume 4357 of *Lecture Notes in Computer Science*, pages 83–97. Springer, 2006.

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[91] Gary Lorenz, Tyler Moore, Gavin Manes, John Hale, and Sujeet Shenoi. Securing SS7 telecommunications networks. In *Second IEEE Systems, Man and Cybernetics Information Assurance Workshop*, June 2001.

## Other Papers

[1] Tyler Moore. How shifting liability explains rising cybercrime costs. In *Rossfest Festschrift*, 2025.

[2] Tyler Moore. Security economics knowledge guide. In Awais Rashid, Yulia Cherdantseva, Andrew Martin, and Steve Schneider, editors, *CyBOK Knowledge Guides and Topic Guides*. University of Bristol, 2024. KG Version 1.0.0.

[3] Tyler Moore, Christian W. Probst, Kai Rannenberg, and Michel van Eeten. Assessing ICT Security Risks in Socio-Technical Systems (Dagstuhl Seminar 16461). *Dagstuhl Reports*, 6(11):63–89, 2017.

[4] Tyler Moore. On the harms arising from the equifax data breach of 2017. *Int. J. Crit. Infrastruct. Prot.*, 19(C):47–48, December 2017.

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[7] Tyler Moore. Investigating the abuse of search engines to promote illicit online pharmacies. *Virus Bulletin*, November 2011.

[8] Tyler Moore. How wise are crowds when assessing phishing websites? *Virus Bulletin*, April 2008.

[9] Ross Anderson, Rainer Böhme, Richard Clayton, and Tyler Moore. Security economics and European policy. In Norbert Pohlmann, Helmut Reimer, and Wolfgang Schneider, editors, *Information Security Solutions Europe (ISSE)*, pages 57–76. Vieweg+Teubner, 2008.

[10] Tyler Moore. Workshop report: DIMACS workshop on information security economics, January 2007.

[11] Tyler Moore. Phishing and the economics of e-crime. *Elsevier Infosecurity Magazine*, 4(6):34–37, 2007.

[12] Ross Anderson and Tyler Moore. Information security economics - and beyond. In Alfred Menezes, editor, *27th Annual International Cryptology Conference (CRYPTO)*, volume 4622 of *Lecture Notes in Computer Science*, pages 68–91. Springer, 2007.

[13] Tyler Moore and Ross Anderson. Trends in security economics. *European Network and Information Security Agency Quarterly*, 1(3):6–7, 2005.

[14] Todd Kosloff, Tyler Moore, Jesse Keller, Gavin Manes, and Sujeet Shenoi. Attacks on public telephone networks: technologies and challenges. In *SPIE 5071, Sensors, and Command, Control, Communications, and Intelligence (C3I) Technologies for Homeland Defense and Law Enforcement II, 72*, pages 72–83, 2003.

[15] Todd Kosloff, Tyler Moore, Jesse Keller, Gavin Manes, and Sujeet Shenoi. SS7 messaging attacks on public telephone networks: Attack scenarios and detection. In *Workshop on the Scientific Aspects of Cyber Terrorism*. ACM, November 2002.

## Books / Book Chapters

[1] Frank Stajano, Catherine Meadows, Srdjan Capkun, and Tyler Moore, editors. *Security and Privacy in Ad-hoc and Sensor Networks, 4th European Workshop, ESAS 2007, Cambridge, UK, July 2-3, 2007, Proceedings*, volume 4572 of *Lecture Notes in Computer Science*. Springer, 2007.

[2] Tyler Moore and Sujeet Shenoi, editors. *Critical Infrastructure Protection IV - Fourth Annual IFIP WG 11.10 International Conference on Critical Infrastructure Protection, ICCIP 2010, Washington, DC, USA, March 15-17, 2010, Revised Selected Papers*, volume 342 of *IFIP Advances in Information and Communication Technology*. Springer, 2010.

[3] Tyler Moore, David Pym, and Christos Ioannidis, editors. *Economics of Information Security and Privacy*. Springer, 2010.

[4] Ian Goldberg and Tyler Moore, editors. *Financial Cryptography and Data Security - 23rd International Conference, FC 2019, Frigate Bay, St. Kitts and Nevis, February 18-22, 2019, Revised Selected Papers*, volume 11598 of *Lecture Notes in Computer Science*. Springer, 2019.

[5] Rainer Böhme, Michael Brenner, Tyler Moore, and Matthew Smith, editors. *Financial Cryptography and Data Security – 18th International Conference, FC 2014, Revised Selected Papers*, volume 8438 of *Lecture Notes in Computer Science*. Springer, 2014.

[6] Tyler Moore and Ross Anderson. Internet security. In Martin Peitz and Joel Waldfogel, editors, *The Oxford Handbook of the Digital Economy*, pages 572–599. Oxford University Press, 2012.

[7] Tyler Moore. The economics of cybersecurity: Principles and policy options. In *Proceedings of a Workshop on Deterring Cyberattacks: Informing Strategies and Developing Options for U.S. Policy*, pages 3–23. The National Academies Press, 2010.

[8] Ross Anderson, Tyler Moore, Shishir Nagaraja, and Andy Ozment. Incentives and information security. In Noam Nisan, Tim Roughgarden, Eva Tardos, and Vijay V. Vazirani, editors, *Algorithmic Game Theory*, pages 633–649. Cambridge University Press, New York, NY, USA, 2007.

[9] Christopher Swenson, Tyler Moore, and Sujeet Shenoi. GSM cell site forensics. In Martin Olivier and Sujeet Shenoi, editors, *Advances in Digital Forensics II*, volume 222 of *IFIP Advances in Information and Communication*, pages 259–272. Springer, 2006.

[10] Tyler Moore, Anthony Meehan, Gavin Manes, and Sujeet Shenoi. Using signaling information in telecom network forensics. In Mark Pollitt and Sujeet Shenoi, editors, *Advances in Digital Forensics*, volume 194 of *IFIP – The International Federation for Information Processing*, pages 177–188. Springer, 2005.

## Externally-Funded Research

[1] Tyler Moore (PI). 'NSF SaTC-BSF: CORE: Small: Evaluating Cybersecurity Precautions and Harms in Israeli Enterprises'. National Science Foundation. Duration: April 2022–March 2026. Award Amount: $494,505.

[2] Peter Hawrylak (PI), Rosanne Gamble (Co-PI), John Hale (Co-PI), Mauricio Papa (Co-PI), Tyler Moore (Co-PI). 'Operational Technology (OT) and Internet of Things (IoT) Asset Identification and Management'. Department of Defense/Army Corps of Engineers. Duration: January 2024–December 2024. Award Amount: $3,750,000.

[3] John Hale (PI), Rosanne Gamble (Co-PI), Peter Hawrylak (Co-PI), Mauricio Papa (Co-PI), Tyler Moore (Co-PI). 'VR for Smart Installation Experimentation and Security Analysis'. Department of Defense/Army Corps of Engineers. Duration: December 2022–May 2024. Award Amount: $3,750,000.

[4] John Hale (PI), Mauricio Papa (PI), Cem Sarica (Co-PI), Eduardo Pereyra (Co-PI), Peter Hawrylak (Co-PI), Tyler Moore (Co-PI). 'Gas Pipeline Security Pilot Study'. Department of Defense/Army Corps of Engineers. Duration: December 2022–May 2024. Award Amount: $3,750,000.

[5] Mauricio Papa (PI), Peter Hawrylak (Co-PI), Will LePage (Co-PI), Rosanne Gamble (Co-PI), Tyler Moore (Co-PI), John Hale (Co-PI), Cem Sarica (Co-PI), Roger Mailler (Co-PI). 'Adaptive OT Threat Analysis Technology'. Department of Defense/Army Corps of Engineers. Duration: September 2021–December 2022. Award Amount: $2,200,000.

[6] Tyler Moore (PI), Nicolas Christin (Co-PI) and Michel van Eeten (Co-PI). 'Towards Outcome-based Cybersecurity Risk Management'. Department of Homeland Security/Air Force Research Laboratory. Duration: February 2019–February 2022. Award Amount: $1,499,964.

[7] Tyler Moore (PI). 'NSFSaTC-BSF: CORE: Small: Examining the Impact of Cybersecurity Shocks on Cryptocurrency Platforms'. National Science Foundation. Duration: August 2017–August 2021. Award Amount: $445,792.

[8] Tyler Moore (PI). 'CAREER: Developing Robust Longitudinal Indicators and Early Warnings of Cybercrime'. National Science Foundation. Duration: July 2017–June 2023. Award Amount: $421,028.

[9] Tyler Moore (PI). 'The Economics of Cybersecurity Research Data Sharing'. Department of Homeland Security/Air Force Research Laboratory. Duration: April 2017–April 2018. Award Amount: $193,439.

[10] Tyler Moore (PI) and Neil Gandal (PI): 'Shocks to and Security in the Bitcoin Ecosystem: an Interdisciplinary Approach'. Tel Aviv University ICRC. Duration: October 2015 – September 2017. Award amount: $67,726.

[11] Tyler Moore (PI) and Frederick Chang (co-PI): 'A Technical and Policy Evaluation of Mechanisms that Monitor Access to Company Documents'. Duration: January – December 2015. Award amount: $100,000.

[12] Tyler Moore (PI) and Frederick Chang (co-PI): 'Structured Interviews and Field Studies to Identify How Firms Manage Cybersecurity Investment'. IBM. Duration: January – October 2015. Award amount: $150,000.

[13] Tyler Moore (PI) and Joshua Rovner (co-PI): 'EAGER: Exploring Trade-offs in Cyber Offense and Defense Through the Lenses of Computer and Political Science'. National Science Foundation. Duration: September 2014 – September 2016. Award amount: $210,505.

[14] Tyler Moore (PI) and Michel van Eeten (PI): 'Increasing the Impact of Voluntary Action Against Cybercrime'. US Department of Homeland Security–Dutch NWO. Duration: July 2014 – June 2017. Award amount: $433,886 (SMU/TU portion) $204,886.

[15] Tyler Moore (PI): 'Empirical Analysis of Security Threats Against Digital Currencies'. Ralph E. Powe Junior Faculty Enhancement Award, Oak Ridge Associated Universities. Duration: June 2014–May 2016. Award amount: $10,000.

[16] Nicolas Christin (PI), Alessandro Acquisti (co-PI), Ross Anderson (co-PI), and Tyler Moore (co-PI): 'Understanding and Disrupting the Economics of Cybercrime'. Department of Homeland Security BAA 11-02. Duration: October 2012 – September 2016. Award amount: $2,874,678 (SMU/TU portion $371,843).

### Selected Presentations

[1] 'Analyzing Target-Based Cryptocurrency Pump and Dump Schemes'. Division of Economic and Risk Analysis 2024 Spring External Seminar Series, Securities and Exchange Commission, Washington, DC, June 6, 2024.

[2] 'Security Economics Knowledge Guide'. CyBOK Showcase, Goodenough College, London, UK, May 1, 2024.

[3] 'Empirically evaluating the effect of security precautions on cyber incidents'. Keynote Address, Information Warfare Summit, Edmond, OK, October 2023.

[4] 'Does Insurance Have a Future in Governing Cybersecurity?'. Cyber Insurance and Cyber Resilience: A Workshop for Practitioners, University of Pennsylvania, Philadelphia, PA, December 13, 2019.

[5] 'The Economics of Cybersecurity – with Lessons for National Security'. Plenary Address, National Security Symposium, University of New Mexico, Albuquerque, NM, April 10, 2019.

[6] 'Some Thoughts on the Use of Artificial Intelligence and Machine Learning in Cyberattacks'. Workshop on the Implications of Artificial Intelligence and Machine Learning for Cybersecurity, National Academies of Sciences, Washington, DC, March 13, 2019.

[7] 'Incentives to Invest in Data Security'. Hearing on Data Security: Competition and Consumer Protection in the 21st Century, Federal Trade Commission, Washington, DC, December 11, 2018.

[8] 'Equifax: Continuing to Monitor Data-Broker Cybersecurity'. Testimony before the U.S. Senate Committee of the Judiciary Subcommittee on Privacy, Technology and the Law, October 4, 2017.

[9] 'The Economics of Cybersecurity Research Data Sharing'. Presentation to the Department of Homeland Security Cyber Security R&D Showcase & Technical Workshop, Washington, DC, July 12, 2017.

[10] 'Lessons from the Economics of Cybersecurity'. Presentation to JASON Summer Study on Cyber S&T, General Atomics Facility, La Jolla, California, June 28. 2017.

[11] 'Identifying and Overcoming Barriers to Cybersecurity'. Invited talk to the Cox Business Cybersecurity Forum, Tulsa, OK, April 7, 2017.

[12] 'Introduction to Security Economics'. Invited talk to the Computer Science Departmental Seminar, Brown University, Providence, RI, March 8, 2017.

[13] 'How Do Firms Manage Cybersecurity Investment? And How Can it Be Improved?' Invited talk to the DHS S&T Stakeholder's Exchange Meeting on Cyber Risk Economics Research, Arlington, VA, February 22, 2017.

[14] 'A Scientific Approach to Fighting Web-Based Cybercrime'. Keynote address to the 13th IFIP 11.9 International Conference on Digital Forensics, Orlando, FL, January 30, 2017.

[15] 'A Scientific Approach to Fighting Web-Based Cybercrime'. Invited talk to the Inaugural Cybercrime Conference, Cambridge Cybercrime Centre, University of Cambridge, United Kingdom, July 14, 2016.

[16] 'Identifying and Overcoming Barriers to Cybersecurity'. Invited talk to Cybersecurity and the Law, Continuing Legal Education, The University of Tulsa, Tulsa, OK, April 22, 2016.

[17] 'Does the Internet Need a Hegemon?'. Invited talk to the Nye Cyber Seminar Series, Harvard Kennedy School of Government, Cambridge, Massachusetts, March 23, 2016.

[18] 'Introduction to Cybersecurity Economics'. Featured speaker in General Session of HIMSS Security and Privacy Forum, Boston, Massachusetts, December 1, 2015.

[19] 'A Scientific Approach to Fighting Web-Based Cybercrime'. Invited talk to the Asymmetric Resilient Cybersecurity Seminar Series, Pacific Northwest National Laboratory, Richland, Washington, October 27, 2015.

[20] 'Introduction to Cybersecurity Economics'. Presentation to the Stanford Congressional Cyber Bootcamp, Stanford, California, August 18, 2015.

[21] 'The Economics of Cybersecurity: Case Studies for Bank Regulators'. Invited talk to Senior Management Group Meeting, Office of the Comptroller of the Currency, Irving, Texas, February 12, 2015.

[22] 'Introduction to Cybersecurity Economics'. Guest lecture in *Case Studies in Cybersecurity*, Prof. Susan Landau, Worcester Polytechnic Institute, Worcester, Massachusetts, February 6, 2015.

[23] 'Introduction to Cybersecurity Economics'. Presentation to the Stanford Congressional Cyber Bootcamp, Stanford, California, August 19, 2014.

[24] 'Voluntary Action Against Cybercrime: Measuring and Increasing its Impact'. Keynote address to the 9th Annual London Action Plan Conference, Montreal, Canada, October 22, 2013.

[25] 'Foundational Security Economics'. Presentation to the National Academy of Sciences Committee on Future Research Goals and Directions for Foundational Science in Cybersecurity, Washington, DC, January 23, 2013.

[26] 'Introducing Cyberinsurance: Challenges and Opportunities'. Plenary presentation to the Cybersecurity Insurance Workshop: Defining Challenges to Today's Cybersecurity Insurance Market, Department of Homeland Security, Arlington, VA, October 22, 2012.

[27] 'Economic Tussles in Federated Identity Management'. Presentation to the NIST IDTrust Workshop, Gaithersburg, MD, March 14, 2012.

[28] 'The Economics of Cybersecurity: Past, Present and Future'. International Conference on Challenges in Cybersecurity – Risks, Strategies and Confidence Building, German Federal Foreign Office, Berlin, Germany, December 13, 2011.

[29] 'Where Do We Go From Here?'. Panel presentation at the Fraud Symposium: Improving Security for Online and Card Not Present Transactions, Federal Reserve Bank, Chicago, IL, September 26, 2011.

[30] 'Exploring Attack and Defense Trade-offs in Cyber War'. Keynote address to the 4th IFIP 11.10 International Conference on Critical Infrastructure Protection, National Defense University, Washington, DC, March 24, 2011.

[31] 'Gathering Evidence of Large-Scale Internet Frauds'. Keynote address to the 7th IFIP 11.9 International Conference on Digital Forensics, Orlando, FL, February 1, 2011.

[32] 'Cyber War'. Invited talk to the Boston Committee on Foreign Relations, January 19, 2011.

[33] 'The Law and Economics of Cybersecurity'. Guest lecture, Law and Economics Seminar, Harvard Law School, Cambridge, MA, November 16, 2010.

[34] 'The Economics of Online Crime'. Guest lecture, Cybercrime Seminar, Harvard Law School, Cambridge, MA, March 11, 2010.

[35] 'The Economics of Identity Management'. Invited talk to the State Department Conference on Identity Management in an Open Society, Washington, DC, USA, November 20, 2009.

[36] 'The Economics of Information Security'. Invited talk to the Cyber International Relations Seminar, MIT, Cambridge, MA, USA, October 15, 2009.

[37] 'The Economics of Information Security'. Invited talk to the Federal Reserve Bank, Kansas City, MO, USA, July 7, 2009.

[38] 'The Economics of Information Security – Key Insights and the Case of Phishing Metrics'. Keynote address to the ITWeb Security Summit, Midrand, South Africa, May 27, 2009.

[39] 'The Economics of Information Security – with Lessons for Critical Infrastructure Protection'. Invited talk to 3rd IFIP WG11.10 International Conference on Critical Infrastructure Protection, Hanover, NH, USA, March 23, 2009.

[40] 'An Empirical Analysis of Phishing Attack and Defense'. Invited talk to Harvard University, Center for Research on Computation and Society Seminar, Cambridge, MA, USA, October 1, 2008.

[41] 'An Empirical Analysis of Phishing Attack and Defense'. Invited talk to the University of Bath, Computer Science Departmental Seminar, Bath, United Kingdom, May 23, 2008.

[42] 'The Economics of Information Security'. Invited talk to the DeepSec In-Depth Security Conference, Vienna, Austria, November 22, 2007.

[43] 'Network Economics and Security Engineering'. Presented at the DIMACS Workshop on Information Security Economics, Rutgers University, Piscataway, NJ, USA, January 18–19, 2007.

[44] 'The Economics of Information Security'. Invited talk to the Institute for Security Technology Studies, Dartmouth College, Hanover, NH, USA, January 16, 2007.

[45] 'The Economics of Information Security'. Invited talk to the Laboratory for Computer Communications and Applications, EPFL, Lausanne, Switzerland, November 30, 2006.

[46] 'Economic Challenges to Improving Information Security'. Invited talk to the International Workshop on Cyber-security, Danish Board of Technology, Copenhagen, Denmark, September 14, 2006.

[47] 'A Survey of Recent Results in the Economics of Information Security'. Invited talk to the Conference on Network and Information Security in Cyprus—Policy and Implementation of Standards, Nicosia, Cyprus, April 28, 2006.

[48] 'On Economics and Information Security'. Keynote address to the Network of Networks (NVN) Workshop, Amsterdam, The Netherlands, January 26, 2006.

[49] 'A Research Agenda for Telecommunications Security'. Presented at the Infosec Research Council Meeting, DARPA, Arlington, VA, USA, September 11, 2003.

[50] 'Countering the Threats to America's Public Telephone Networks'. Presented at the National Defense University, Fort Leslie McNair, Washington, DC, USA, September 11, 2003.

[51] 'Signaling System 7 (SS7) Network Security'. Presented at the National Security Information Exchange Meeting, Atlanta, GA, USA, September 18, 2002.

## Teaching Experience

**The University of Tulsa**, 2015–present
CYB 2004 "Secure Software Development I". *Taught S22*
CYB 2013 "Secure Software Development II". *Taught F22*
CYB 3023 "Cyber and Society Seminar". *Taught S23*
CYB 8003 "Research Seminar in Cyber Studies". *Taught F23, F24*
CS/CYB 3073 "Introduction to Cyber Security". *Taught S17, S18, S19, S20*
CS 2123 "Data Structures and Algorithms". *Taught F16, F17, F18, F19, F20*
CS 3863 "CCDC Training". *Co-taught F16*
CS 7143 "Security Economics". *Taught F15, S17, F18, F19, F22, F24*
CS 6013 "Secure Electronic Commere". *Taught S16, S18, S19*
CS/CYPR 7153 "Foundations of Cyber Security". *Taught F17, S18, S19, S20, F20*

**Southern Methodist University**, 2012–2015
Designed and taught "Security Economics", introducing concepts from microeconomics and information security, covering security investment models, empirical analysis techniques for studying cybercrime, and game theoretic modeling. *Taught F12, F13, F14*
Taught undergraduate-level "Fundamentals of Algorithms". *Taught S13, S14, F14*

**Wellesley College**, 2011–2012
Taught introductory course for non-majors covering HTML, CSS and JavaScript; designed and taught "Quantifying the World" course, introducing methods of data collection and analysis, teaching Python, R, and MongoDB.

**Harvard College**, Spring 2009

Assisted teaching of introductory computer science and policy course for non-technical majors; managed 7 teaching fellows, co-wrote and graded problem sets, projects and exams.

**Harvard University Extension School**, Autumn 2008 & Spring 2010
Assisted teaching of introductory computer science and policy course for non-technical majors
**University of Cambridge**, Autumn 2004–Spring 2006
Courses supervised: Security and Advanced Systems Topics

## Research Students

### Postdoctoral Scholar

David Benson (SMU, 2015–2016)

### Dissertation/Thesis Advisor (in progress)

*Ph.D., Cyber Studies:* Matthew Adams (2023), Corey Bolger (2022, co-advised with Sal Aurigemma), Raghavendra Cherupalli (2024, co-advised with Yi Ting Chua), Abu Hajizada (2022), Dima Kashchuk (2024), Samantha Phillips (2022, co-advised with Sal Aurigemma)

*Ph.D., Computer Science:* Arghya Mukherjee (2018)

### Dissertation/Thesis Advisor (completed)

[1] Seth Hastings, 'Expanding Authentication log utility through Novel Event Aggregation: A Generalizable Approach', TU, 2025.

[2] Jonathan Codi West, 'Longitudinal Study of Internet-Facing OpenSSH Update Patterns', TU, 2025.

[3] Andrew Morin, 'Security Shocks and Cryptocurrency Market Manipulations', Ph.D., TU, 2023.

[4] Geoffrey Simpson, 'Measuring Business-Email Compromise Attacks with Visually Impersonated Domain Names', Ph.D., TU, 2023.

[5] J.T. Hamrick, 'Price Manipulation in the Cryptocurrency Ecosystem', Ph.D., TU, 2020.

[6] Michael Collett, 'Analyzing the Use and Value of Cybersecurity Research Datasets', M.S., TU, 2019.

[7] Philippe Bled, 'Decision Models for Application of Machine Learning Methods in Fraud Detection', M.S. (Applied Mathematics), TU, 2019.

[8] Marie Vasek, 'Measuring Bitcoin-Based Cybercrime', Ph.D., TU, 2017.

[9] Matthew Weeden, 'A System for Sharing Abuse Data with Web Hosting Providers', M.S., TU, 2017.

[10] Jake Drew, 'Scalable Machine Learning Using Applications in Bioinformatics and Cybercrime', Ph.D., SMU, 2015.

[11] Lewis Sykalski, 'A Reusable Framework for Security Dataset Analysis', D.Engr., SMU, 2015.

[12] John Wadleigh, 'Tracking How Cybercriminals Compromise Websites to Sell Counterfeit Goods', M.S., SMU, 2015.

[13] Era Vuksani, 'Device Dash: Designing, Implementing, and Evaluating an Educational Computer Security Game', B.S. honors thesis, Wellesley, 2012.

**Committee Member**

[1] Elsa Rebeca Turcio Rodriguez, 'One thing after another: the role of users, manufacturers, and intermediaries in IoT Security', Ph.D., Delft University of Technolgy, 2023.

[2] Xinchi He, 'A Blockchain-based Framework to Secure Over-the-Air Firmware Updates for Internet of Things', Ph.D., TU, 2019.

[3] Alain Mermoud, 'Three Essays on the Behavioral Economics of Security Information Sharing: A Theoretical Framework, an Empirical Test and Policy Recommendation', Ph.D., University of Lausanne, 2019.

[4] Chad Heitzenrater, 'Software Security Investment Modelling for Decision-Support', D.Phil., University of Oxford, 2018.

[5] Aaron Hansen, 'Security Analysis of an Advanced Metering Infrastructure', Ph.D., TU, 2017.

[6] Jason Staggs, 'Cellular Baseband Malware Capabilities and Exploitation Mitigation', Ph.D., TU, 2017.

[7] Osman Yucel, 'Leveraging Reviews to Produce Personal Recommendations', Ph.D., TU, 2017.

[8] Chad Johnson, 'Securing Smart Devices in the Internet of Things', Ph.D., TU, 2016.

[9] Jason Britt, 'Clustering Phish Using the Simple Set Comparison Tool', Ph.D., University of Alabama at Birmingham, 2016.

[10] Benjamin Edwards, 'Modeling Global Cybersecurity Phenomen and Interventions', Ph.D., University of New Mexico, 2016.

[11] Subil Abraham, 'Cyber-Security Analytics: Stochastic Models for Security Quantification', Ph.D., SMU, 2016.

[12] Aaron Estes, 'Advanced Email Risk Classification and Recipient Decision Assistance', D.Engr., SMU, 2016.

[13] Bilal Al-qudah, 'EHR security and privacy: Encountering honest-but-curious attacks through selective multi-level access control policy', Ph.D., SMU, 2015.

[14] Ali Eshmawi, 'The Roving Proxy for SMS Spam and Phishing Detection', Ph.D., SMU, 2014.

[15] Nektarios Leontiadis, 'Structuring Disincentives for Online Criminals', Ph.D., Carnegie Mellon University, 2014.

[16] Richard Goodrum, 'Algorithms and Metrics for Territorial Design', Ph.D., SMU, 2013.

[17] Stephen Papa, 'A Behavioral Intrusion Detection System for SCADA Systems', Ph.D, SMU, 2013.

[18] Andy Nagar, 'A Quasi-Alignment Based Framework for Discovery of Donserved Regions and Classification of DNA Fragments', Ph.D., SMU, 2013.

### Undergraduate Research Students

Meaghan Longenberger (TU), Weston Phillips (TU), Hannah Roberts (TU), Tom Wu (TU), Aaron Krusniak (TU), Joseph Brett (TU), Steven Diaz (TU), Andrew Fulsom (SMU), Cameron Keith (SMU), Justin Konersmann (SMU), Viral Kotecha (SMU), Noah Mendoza (SMU), Jarret Shook (SMU), Joe St. Angelo (SMU), Micah Thornton (SMU), Elena Villamil (SMU), John Wadleigh (SMU), Jie Han (Wellesley), Marie Vasek (Wellesley), Era Vuksani (Wellesley)

### Visiting Scholar

Daniel Woods, University of Oxford (Fulbright, 2018–19), Markus Riek, University of Münster (2013)

## University Service Activities

**Chairperson**, School of Cyber Studies, *2021–present*
**Faculty Director**, MS in Cyber Security Professional Track, *2017–21*
**Senator**, Faculty Senate, *2017–2020*
**Co-Chair**, Tulsa Curriculum Review Committee, *2018–2020*
**Member**, Graduate School Task Force, *2019–2020*
**Member (Ex Officio)**, University Council, *2019–2020*
**Member**, University School Strategic Planning Committee, *2018–2019*
**Member at Large**, University School Association, *2019–2021*

## Professional Activities

**Director**
*StopBadware*, (2015–2020)

**Editor in Chief**
*Journal of Cybersecurity*, Oxford University Press, (2014–present)

**Vice President and Director**
*International Financial Cryptography Association*, (2011–2014)

**Vice Chair**
*IFIP Working Group 11.10 on Critical Infrastructure Protection*, (2008–2016)

**Workshop Organizer**
"Assessing ICT Security Risks in Socio-Technical Systems", Schloss Dagstuhl, Germany, November 2016

**Program Chair / Co-Chair**
*14th Workshop on Cyber Security Experimentation and Test* (2021)

*20th Workshop on the Economics of Information Security* (2021)
*13th USENIX Workshop on Cyber Security Experimentation and Test*, (2020)
*23rd International Conference on Financial Cryptography and Data Security*, St. Kitts (2019)
*1st Workshop on Bitcoin Research*, Barbados (2014)
*8th APWG eCrime Researchers Summit*, San Francisco, CA (2013)
*7th APWG eCrime Researchers Summit*, Las Croabas, PR (2012)
*4th IFIP WG 11.10 International Conference on Critical Infrastructure Protection*, National Defense University, Washington, DC, USA (2010)
*9th Workshop on the Economics of Information Security*, Harvard University, Cambridge, MA, USA (2010)
*8th Workshop on the Economics of Information Security*, University College London, UK (2009)

**General Chair**
*18th International Conference on Financial Cryptography and Data Security*, Barbados (2014)
*13th International Conference on Financial Cryptography and Data Security*, Barbados (2009)
*5th Workshop on the Economics of Information Security*, University of Cambridge, UK (2006)

**Local Arrangements Chair**
*4th European Workshop on Security and Privacy in Ad-hoc and Sensor Networks*, University of Cambridge, UK (2007)

**Program Committee Member**
*USENIX Security Symposium* (2015, 2016, 2021)
*WWW: International World Wide Web Conference (Security & Privacy Track)* (2014, 2015, 2016, 2017)
*FC: International Conference on Financial Cryptography and Data Security* (2011, 2015, 2016, 2017, 2018, 2019)
*WEIS: Workshop on the Economics of Information Security* (2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2023, 2024, 2025)
*eCrime: Anti-Phishing Working Group eCrime Researchers Summit*, (2009, 2010, 2011, 2012, 2013, 2016, 2017, 2020, 2021)
*CCS: ACM Conference on Computer and Communications Security* (2012)
*BITCOIN: Workshop on Bitcoin and Blockchain Research* (2014, 2015, 2016)
*WTMC: International Workshop on Traffic Measurements for Cybersecurity* (2016, 2017)
*IFIP WG 11.10 International Conference on Critical Infrastructure Protection* (2007–2016)

*STAST: Workshop on Socio-Technical Aspects in Security and Trust* (2011, 2012, 2013, 2014)
*W-PIN+NetEcon 2014: Workshop on Pricing and Incentives in Networks and Systems* (2014)
*NetEcon: Workshop on the Economics of Networks, Systems and Computation* (2017)
*CSET: USENIX Workshop on Cybersecurity Experimentation and Test* (2013, 2019)
*GameSec: Conference on Decision and Game Theory for Security* (2013)
*QASA: International Workshop on Quantitative Aspects of Security Assurance* (2013)
*NSPW: New Security Paradigms Workshop* (2011)
*TRUST: International Conference on Trust and Trustworthy Computing* (2009, 2010, 2011, 2016)
*DIMVA: International Conference on Detection of Intrusions and Malware & Vulnerability Assessment* (2010)
*Ad Auctions Workshop* (2010)
*WiSec: ACM Conference on Wireless Network Security* (2010)
*PerSec: IEEE Workshop on Pervasive Computing and Communications Security* (2007)

*IFIP WG 11.9 International Conference on Digital Forensics* (2006–2010)

**Journal Reviews**

Science, IEEE Transactions on Dependable and Secure Computing, IEEE Security and Privacy Magazine, ACM Mobile Computing and Communications Review, ACM Computing Surveys, ACM Transactions on Internet Technology, Information Systems Research, The Computer Journal (British Computer Society), Elsevier International Journal of Critical Infrastructure Protection, Management Science, Journal of Policy Analysis and Management, Proceedings on Privacy Enhancing Technologies