

# CYBERSECURITY

## CAMS Member Events

February 25: 11-12:30EST  
Discuss Research with our  
Researchers (Virtual Meeting for  
Member's Only)

May 20-21: (CCIS) Annual  
CAMS Cybersecurity Innovation  
Symposium

**JOIN CAMS TODAY TO  
PARTICIPATE IN OUR 2025  
LINEUP!**

Looking for Executive Education  
in Cybersecurity?

The CAMS team, in partnership  
with MIT Sloan Exec Ed, offers  
four cybersecurity management  
programs for business and non-  
technical executives.

For more information visit:  
<https://cams.mit.edu/events>

**IDEAS  
MADE TO  
MATTER**



*Michael Siegel, Keri Pearlson and Professor Stuart Madnick at CAMS 10<sup>th</sup> Anniversary Celebration.*

## 10 YEARS OF CAMS: FROM CYBER BEGINNINGS TO RESILIENT FUTURES!

Happy Birthday! In October, Cybersecurity at MIT Sloan (CAMS), previously called the Interdisciplinary Consortium for Improving Critical Infrastructure Cybersecurity (IC)<sup>3</sup>, celebrated its 10th Anniversary, bringing together leaders from academia, industry and government to reflect on the organization's past, present and future. From its roots in the 1970s to its evolution into a collaborative space for research and practical solutions, the anniversary highlighted significant progress in understanding and addressing complex cybersecurity issues and set the stage for future priorities.

Keynote speaker, John Dickson, CISO of Colonial Pipeline, shared insights from a recent ransomware attack, emphasizing lessons learned and improvements in cybersecurity practices. Panelists from C6Bank, Google, Liberty Mutual, MongoDB and Schneider Electric described how their collaboration with CAMS strengthens their approaches to cyber threats.

Presentations were made by CAMS researchers on topics such as Cyber Resilience, Supply Chain Security, Risk Management,

## About Cybersecurity at MIT Sloan (CAMS)

MIT is a natural place to study cybersecurity, given its rich history of technology innovation, and the MIT Sloan School of management is the home of the Cybersecurity at MIT Sloan (CAMS) research consortium. The Consortium is focused on the managerial, organizational, and strategic aspects of cybersecurity. More information can be found at <https://cams.mit.edu> or by contacting us:



**Stuart Madnick**  
Founding Director  
[smadnick@mit.edu](mailto:smadnick@mit.edu)



**Michael Siegel**  
Director  
[msiegel@mit.edu](mailto:msiegel@mit.edu)

and Cybersecurity Regulations. Thank you to ALL our valued members for your contributions to the consortium and your commitment to tackling new challenges in the years ahead!

## CHANGES TO CAMS ORGANIZATION

**Dr. Keri Pearlson**, previously Executive Director of CAMS, has been appointed Principal Research Scientist at MIT Sloan, beginning January 1, 2025. She will now focus on advancing the CAMS research agenda, by delving deeper into topics like AI and ML in cybersecurity leadership, organizational resilience, human risk management, cybersecurity culture, and more! She also plans to explore trust building post-incident and developing next-generation CISOs. Members can contact her directly at [kerip@mit.edu](mailto:kerip@mit.edu) to engage with her work.

**Dr. Michael Siegel** will now be the Director overseeing the entire administrative and research agenda of CAMS while also conducting research in important areas, such as Cyber Risk Management, Cyber Resilience, AI and Cybersecurity, and Supply Chain Risk. He will also be the acting Executive Director (ED) while we search for a new ED. If you know of any talented candidates (or have any other questions about CAMS), please contact Michael at [msiegel@mit.edu](mailto:msiegel@mit.edu).

**Prof. Stuart Madnick** will now take on the formal title of Founding Director of CAMS and will provide oversight and advice to the Director, much like a Chairman of the Board. He will also continue his research in areas such as cybersecurity of Operational Technology and the impact of new Cybersecurity Regulations. He is always available to talk with our CAMS Members and can be reached at [smadnick@mit.edu](mailto:smadnick@mit.edu).

## WELCOME TO OUR NEWEST MEMBERS!

**Z-Cert:** is the Computer Emergency Response Team for the Dutch healthcare sector. They are the experts in cybersecurity in healthcare and provide support to healthcare providers in the event of an incident.

**Everbridge:** is a global software company empowering organizations to anticipate, mitigate, respond to, and recover from critical events, keeping people safe and businesses running.

**GallagherRE:** is a full-service global reinsurance firm revitalizing the industry, redefining innovation, and reimagining what's possible. Their 2024 cyber claims correlation study

# SAVE THE DATE

## CAMS MEMBER EVENTS 2025:

### February 25<sup>th</sup>

11am – 12:30pm EST  
Discuss Research with our  
Researchers Virtual  
Member's Only Event:  
Cybersecurity for SME's:  
Sharing Culture

### May 20-21<sup>st</sup>

CCIS : Annual CAMS  
Cybersecurity Innovation  
Symposium (In Person  
Event at MIT)

### August 8<sup>th</sup>

11 – 12:30pm EST  
Discuss Research with our  
Researchers Virtual  
Member's Only Event:  
Topic TBD

### October 28-29<sup>th</sup>

CAMS Fall In-Person  
Workshop, Cambridge  
MA.

explores how external cybersecurity scanning data can enhance underwriting accuracy for the (re)insurance industry.

## CAMS SHINES AT ICIS 2024: A GLOBAL STAGE FOR EXCELLENCE IN CYBERSECURITY

In December 2024, CAMS proudly participated at the International Conference on Information Systems (ICIS) in Bangkok, Thailand. ICIS is the largest and most prestigious event in the field of information systems, gathering over 1,600 attendees from all over the globe. This dynamic forum showcased industry leading research, innovative ideas and explored many future cyber trends. For CAMS, it was an invaluable opportunity to connect with top academics and fellow leaders in the information systems space. Further solidifying our role at the forefront of cybersecurity and cyber risk management.

A standout moment for ICIS was when our very own Professor Stuart Madnick was recognized for CAMS groundbreaking research. He, and co-authors CAMS Affiliate Researchers, Jeff Proudfoot and Michael Coden, were honored with one of the five “Best IS Publication” awards across all journals in the IS field, for their paper “The Importance of Board Member Actions for Cybersecurity Governance and Risk Management,” published in the December 2023 issue of MIS Quarterly Executive and available [here](#).

This achievement not only highlights the excellence of Professor Madnick's contributions to the field but also accentuates the influence of CAMS research tackling today's critical challenges in cybersecurity reflecting our commitment to driving meaningful advancements in the cybersecurity industry.



*Prof. Stuart Madnick (center) being awarded “Best IS Publication Award” at ICIS Conference in Bangkok, Thailand, with Prof. Andrew Burton-Jones, President of the Association for Information Systems (left) and Prof. Waifong Boh, Chairperson of the AIS Best Published Paper Committee (right).*

# MAKE AN IMPACT

## WHY JOIN US?

- Network with fellow CISOs and other cyber experts
- Learn best practices in Cyber, AI, Cloud, Blockchain, Quantum, and more
- Showcase your expertise as a speaker or panelist at a CAMS event
- Directly participate in research projects
- Join working groups on Cyber Culture, OT/ICS, Risk Management

CAMS activities were also highly visible at two other major events as part of ICIS 2024.

### ICIS CIO Forum

The CIO Forum at ICIS is a premier event that brings together CIOs, IT experts, and leading academics from around the world engaging discussions, networking opportunities, and innovative ideas. Prof Madnick represented CAMS in the panel on how academia, government, and the private sector can innovate and distinguish themselves in disruptive environments. The panel focused on identifying and designing “Intelligence Futures” companies must adopt to stay competitive and to provide actionable insights on how organizations can develop future-ready strategies and capabilities. Prof. Madnick discussed the interrelationship between innovation and cybersecurity by explaining his research about how we are most at cyber risk when we are in unfamiliar situations – like dealing with innovations such as Artificial Intelligence.

CIO Forum at ICIS 2024  
**THE FUTURE CIO**  
**AGENDA: INNOVATING IN THE AGE OF DISRUPTION**  
 December 16, 2024 | 1:30 - 7:15 pm  
 Bangkok Marriott Marquis Queen's Park

**Keynote Speaker**  
 Dr. Suttipong Thajchayapong  
 Director of CS&IS, NECTEC

**Session I : Designing Intelligence Futures**

**Prof. Dr. Stuart Madnick**  
 Professor of Information Technology and Engineering Systems, MIT

**Dr. Gayan Benedict**  
 CTO, ScienceForce Australia and New Zealand

**Assoc. Prof. Dr. Savanid Vatanasakdaku**  
 Computing & Information Systems, U.S. Qatar

**Dr. Non Arkaraprasertkul**  
 Senior Expert in Smart City, Pattana, JICA

**Assoc. Prof. Dr. Olayele Adelakin**  
 (Moderator), DePaul University

### ICIS Workshop on Information Security and Privacy (WISP)

The annual Workshop on Information Security and Privacy (WISP) is a premier research forum for the leading researchers, practitioners, and doctoral students interested in information security, privacy, ethics, and trust to exchange ideas and collaborate with the members of the Special Interest Group on Security (SIGSEC) community and others. Prof. Madnick presented a paper, based on his research, in collaboration with CAMS Research Affiliate Angelica Marotta, entitled:



## **CYBERSECURITY EXECUTIVE EDUCATION PROGRAMS :**

### **Developed by CAMS**

The CAMS team has created several executive education programs. Some are prerecorded online and others 'live online' with instructors teaching in real time over a Zoom link. Here are the links and the date of the next class (CAMS members get a discount on registration)

### **Cybersecurity Leadership for Non-Technical**

**Executives:**  
2-day program

**Cybersecurity for  
Managers: A Playbook**  
Self-paced online program.

**(MIT) xPro Professional  
Certificate in  
Cybersecurity (24 weeks)**  
Intensive online  
professional cybersecurity  
certificate program.

**Cybersecurity Governance  
for the Board of Directors**  
Live-online format  
professional certificate  
cybersecurity program.

“Categorizing Differences in Cyber Incident Definitions and The Impact on Regulatory Compliance.” He explained that there are an increasing number of cybersecurity regulations around the world and CAMS has studied over 170 of them! Reporting cyber incidents is a requirement as part of many of these regulations – but what is “an incident”? Their paper provides an overview of the current state of cyber incident definitions, their consistency and inconsistency across various regulations, and their implications. Furthermore, it discusses the potential benefits of more nuanced and comprehensive approaches to defining cyber incidents, especially those that are referred to as “near misses.”

## **CYBERSECURITY AND DIGITAL RISK—MADNICK DISCUSSES IN MISQE**

Professor Madnick’s special editorial issue in the MIS Quarterly Executive explores how organizations should manage cyber risks through more holistic approaches. He also stresses the importance of research that ties back to real-world applications, such as tackling ransomware, creating agile policies, and improving cybersecurity training programs. The goal is to make a real impact and help organizations handle today’s cybersecurity challenges. Read Stuart’s issue [here](#), to discover deeper insights cybersecurity and digital risk.

## **AI AND CYBERSECURITY**

Michael Siegel recently shared at a panel about how AI plays a dual role as both a defender and an attacker is reshaping the digital landscape. AI driven tools promise to reduce the asymmetry in cyber defenses, offering optimism for the future of cybersecurity. This discussion serves as a reminder that as technology evolves, so do the opportunities for defenders to innovate and adapt. Organizations must stay vigilant and invest in AI-driven tools to safeguard their infrastructures proactively.

## **SUPPLY CHAIN RESILIENCE**

Keri Pearlson and Jillian Kwong’s paper; "How Large Companies Can Help Small and Medium-Sized Enterprise (SME) Suppliers Strengthen Cybersecurity," was also featured in the December 2024 MISQE Special Issue. Explore their paper [here](#). Jillian offers practical strategies for enhancing supply chain resilience. Her presentation at the HPI-MIT Designing for Sustainability Workshop emphasized the intersection of sustainability and cybersecurity, showcasing innovative solutions

## CAMS PRIORITY RESEARCH AREAS FOR 2025

### CYBERSECURITY RISK MANAGEMENT

How do we manage (and measure) cyber risk? What mechanisms (CAT Bonds, Insurance, etc) are most effective for transferring, mitigating and modeling cyber risk? How do we minimize supply chain third-party risk? What role does trust play in managing cybersecurity risk?

### OPERATIONAL TECHNOLOGY :

What is the best approach to managing cybersecurity of IoT devices, especially those running in plants and complex systems? How do we manage the complexity of systems in a structured manner? How can we use what we know about safety and IT security to make our OT environments more secure?

for modern challenges. The key takeaway from Jillian's work is the power of collaboration and knowledge sharing. By fostering partnerships between large enterprises and SMEs, industries can create more secure and sustainable ecosystems.



*Michael Siegel (left) on panel about AI and Cybersecurity, alongside, Bernard Gavvani, BNP Paribas Global CIO (BNP Paribas is a CAMS Advisory Member) (right) and Yosra Jarraya, the Co-Founder and CEO, ASTRAN (center).*

## SECURING THE DIGITAL FUTURE: THE DUAL ROLE OF AI IN CYBERSECURITY

Michael Siegel recently participated in a panel discussion on AI and Cybersecurity at the 11th Annual French-American Cyber Security Conference in Washington, D.C. Also on the panel was Bernard Gavvani, Global CIO from BNP Paribas, a CAMS Advisory Member. The conversation addressed the growing attack surface created by AI technologies. One of the key insights was how much AI can learn from the field of cybersecurity, which has long grappled with a broad spectrum of cyber risks. While AI introduces its own unique risks, many of these can be evaluated and managed using approaches already developed within cybersecurity. The discussion also highlighted the dual-edged role of AI in cybersecurity. On one hand, AI offers opportunities to enhance cybersecurity defenses; on the other, it has been rapidly adopted by attackers, significantly improving their capabilities. Despite this challenge, Michael emphasized a sense of optimism: AI has the potential to reduce the asymmetric nature of offense and defense, paving the way for a more secure digital infrastructure in the future. This discussion serves as a reminder that as technology evolves, so do the opportunities for defenders to innovate and adapt. Organizations must stay vigilant and invest in AI-driven tools to safeguard their organizations.

## **CYBERSECURITY GOVERNANCE**

What is the role of the Board of Directors in cybersecurity governance? How is the regulatory landscape changing? What regulations are needed going forward?

## **CYBERSECURITY CULTURE**

How do we reduce the human risk? How do we increase the effectiveness of our cybersecurity culture? How might AI impact cybersecurity culture?

## **CYBERSECURITY RESILIENCE**

How do we make our organizations cyber resilient? What are the components of a cyber resiliency plan? How can we measure cyber resiliency?

## **CAMS PARTICIPATES IN WORLD ECONOMIC FORUM SESSION ON POST INCIDENT TRUST**

In October, Dr. Keri Pearlson was invited to moderate a session on how organizations build trust after they've experienced an incident. A cyber incident in an organization today can result in a significant erosion of trust among consumers, with nearly 75% expressing readiness to sever ties post-incident. However, effective collaboration and responsible remediation can result in strengthened relationships and trust. Dr. Pearlson shared her research on post-incident trust mechanisms and led a lively discussion with panelists and the audience highlighting mechanisms they've used in their organizations. One key take away was the awareness that to build trust post-incident, resilient organizations build trust pre-incident.

## **CAMS WINS PRESTIGIOUS QUEST GRANT FROM LIBERTY MUTUAL**

Michael Siegel and Ranjan Pal were awarded a prestigious MIT-wide QUEST grant funded by Liberty Mutual for their research on strategically improving cyber resilience in critical infrastructure networks. The research grant will support the graduate thesis of Cynthia Zhang - a CAMS student researcher who is mentored by Pal and Siegel.

## **CYBER RISK MANAGEMENT AND REAL-WORLD IMPACT: FROM DR. RANJAN PAL**

Pioneering Cyber Risk Management, Ranjan's research provides critical insights into enterprise risk, demonstrating the challenges of systemic risk estimation and the strategic prioritization of cyber defenses. His work on generative AI highlights its dual role in enhancing both attack and defense capabilities, urging organizations to adopt a balanced and proactive approach. The takeaway here is that cybersecurity leaders must adopt data-driven strategies to maximize resilience under constrained resources. Ranjan's award-nominated paper underscores the importance of academic rigor in solving longstanding industry challenges.

## **SANDER ZEIJLEMAKER: BRIDGING RESEARCH AND REAL-WORLD IMPACT**

Sander's ransomware simulation research, presented at International System Dynamics Conference (ISDC) 2024, and his workshop at the EU Health ISAC meeting demonstrated the value



## DISCUSS WITH US

### MIT CAMS Friday Research Community

**Discussion:** The CAMS research community meets almost every Friday from:

**11:30 -12:30 EST**

The topics vary each week. If you are interested in participating, send the directors an email!

Join us now!

For more information on CAMS Research and getting involved, please reach out to our team at: [mitcyber@mit.edu](mailto:mitcyber@mit.edu)

of interactive methods for addressing cybersecurity challenges. His work equips organizations with tools to model real-world scenarios and gain board-level buy-in for critical cybersecurity investments. The key takeaway from Sander's contributions is that experiential learning can drive meaningful change. Organizations that engage in simulations and participatory workshops are better prepared to mitigate risks and secure necessary resources.

## CAMS TRAINS BOARD DIRECTORS ON CYBERSECURITY GOVERNANCE

Dr. Pearlson, Prof. Madnick and Research Affiliate Kevin Powers led two sessions of their popular Cybersecurity Governance for Board of Directors this past quarter. This Executive Education program brings together the strategic perspective with the legal and regulatory perspective, driving discussions with participants who are primarily board directors or C-level executives who report to boards. Professor Madnick set the scene with a lecture about the myths and realities of cybersecurity today. Dr. Pearlson and Mr. Powers then followed with sessions on cybersecurity strategy using the NIST framework, cyber resilience, cybersecurity culture, the board's responsibility, the regulatory environment, data privacy, and more. Participants leave with a playbook of questions and activities to follow up when they return to their organizations. Sloan Exec Ed expects to offer this program at least twice in 2025. Check out the website [HERE](#).

## READ ALL ABOUT IT! CAMS IN THE NEWS & PUBLICATIONS

December 30, 2024: Keri Pearlson contributed insights to: [MIT Sloan Executive Education's Faculty Insights for 2025](#)

December 15, 2024: Keri Pearlson and Mridula Prakash contributed to a report with CAMS members KPMG on AI's impact on cybersecurity culture: [A New Age of Cybersecurity Culture](#)

December 13, 2024: Keri Pearlson was quoted in an article by CSO ["How to turn around a toxic cybersecurity culture"](#)

December 13, 2024: Keri Pearlson was quoted in an article by VPNRanks ["Addressing Toxic Cybersecurity Culture Essential for Organizational Security"](#)



December 12, 2024: Stuart Madnick was quoted in an article by Forbes ["What Are Trump's Tech Policy Priorities, And What Will He Do?"](#)

November 26, 2024: Keri Pearlson was quoted in an article by ADGMA Research Centre ["Cyber Security Threats in the UAE Financial Sector: Expert Insights and Emerging Challenges"](#)

November 13, 2024: Stuart Madnick was quoted in an article by The Wall Street Journal: ["Trump's Second Term Is Expected to Bring Big Change to Top U.S. Cyber Agency"](#)

November 7, 2024: Stuart Madnick was quoted in an article by The Wall Street Journal: ["How a Second Administration Could Rewrite the Way America Does Business"](#)

November 7, 2024: Ranjan Pal authored an article for Forbes India Magazine ["5 challenges to ensuring cyber assurance in the medical AI business"](#)

October 25, 2024: Stuart Madnick was quoted in an article by The Boston Globe ["‘Don’t assume you are safe’: Data breaches soar, with nearly 7 million Mass. accounts hit in 2023"](#)

October 25, 2024: Stuart Madnick was quoted in an article by The Boston Globe ["What to do when your personal data is hacked"](#)

October 15, 2024: Stuart Madnick was quoted in an article by Security Intelligence ["Biden-Harris administration releases roadmap to enhance internet routing"](#)

October 14, 2024: Stuart Madnick was interviewed for a [video segment](#) about the ["Rise in cyber attacks and how to protect yourself"](#) for Spectrum News 1, beginning at minute 21:00 and ends around 29:45.

This is a prolific time for CAMS, with many articles and publications available on the Members Only page of our website.