Newsletter #40: September-October 2021



# Newsletter

## **Michael Stonebraker Presented New Database Managers**

Professor Michael Stonebraker, 2015 Turing Award Winner, presented a keynote speech on data governance and protection at CAMS October Member's Meeting. Besides being a noted academic, Stonebraker has developed a number of technologies that are foundations of almost all modern database systems. In his keynote, he discussed how his current research on data governance and data protection goals align with cybersecurity strategy and how new technologies can help address new requirements. New database managers are much faster than those of the past; it makes sense to use operating systems for tasks such as determining the scope of what users have interacted with each other and monitoring applications. This research has found that databases can more efficiently accomplish tasks and change the game for large systems.

# MIT Energy Night: Designing Resilient Energy Systems



MIT Energy Night is the flagship event of the MIT Energy and Climate Club. It drew over 1,000 attendees as a great opportunity to witness cutting-edge energy research developing across MIT's ecosystem. CAMS Research Scientist Shaharyar Khan presented CAMS research on designing resilient energy systems. In the past decade, cyberattacks on physical systems have demonstrated that traditional IT security measures are largely impotentt in protecting critical infrastructure from advanced cyber adversaries. This research stresses the urgent need to identify and mitigate cyber vulnerabilities, as future cyberattacks could cause unimaginable disruptions such as interrupting the flow of fuels or shutting down the US electric grid.

## "When you think about cybersecurity, what first comes to mind?"

CAMS Member and C6 Bank Executive, Nelson Novaes Neto, presented to IBGC- (Brazilian Institute of Corporate Governance) on cybersecurity. Nelson presented to 21 executives and board members on the key aspects of cybersecurity. The word cloud to the right signified the "hot words" from the presentation: risk, security, protection, and vulnerabilities. The topics on how AI can help cybersecurity, how to



establish a solid breach-recovery process, and how should cyber be applied in the traditional GRC process were all discussed.

### Harmonizing Compliance and Cybersecurity

Dr. Jeff Proudfoot presented the latest CAMS research on the effect compliance regulations have on cybersecurity at our September CAMS Members Meeting. Regulators (e.g., governments) continue to deploy regulations as one means of helping organizations improve their cybersecurity postures. This presentation discussed the findings of an initial effort to explore the interaction of regulatory compliance and cybersecurity maturity. Jeff and his team employed a grounded theory approach to conceptualize novel regulatory compliance factors that impact organizational cybersecurity maturity.

#### Fighting the Cybersecurity Threat: New MIT xPRO Course

CAMS collaborated with MIT xPRO to launch a new professional cybersecurity certification course. The intensive 24-week course launched this summer was designed to help fill the four million-plus unfilled cybersecurity jobs globally. The program director, Dr. Keri Pearlson, designed the program which involves faculty from across MIT and professionals in the field. This program is offered online in a bootcamp style approach for people wanting to transition into an entry level job in cyber. The latest offering is now open for applications: cams.mit.edu/events



# SAVE THE DATE!

Our next MEMBERS ONLY workshop is on December 2! Join CAMS today to participate in our next workshop featuring informal discussions at the virtual water cooler.

## Did you know... Our CAMS team, in partnership with MIT Sloan Exec Ed, offers two cybersecurity management programs for your business partners and nontechnical executives

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

### About Cybersecurity at <u>MIT Sloan:</u> <u>Formerly the</u> <u>Interdisciplinary Consortium</u> <u>for Improving Critical</u> <u>Infrastructure Cybersecurity,</u> <u>(IC)<sup>3</sup></u>

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, Director smadnick@mit.edu

Michael Siegel, Director msiegel@mit.edu

Keri Pearlson, Executive Director kerip@mit.edu

### **Energy Ireland: How to Protect Our Energy Infrastructure**



CAMS Researcher Shaharyar Khan presented at Energy Ireland 2021. He explained how using a systems-thinking approach can protect our energy infrastructure. The goal for this presentation was to convince people to rethink the strategy for defending critical infrastructure and stress the importance of securing the overall system as opposed to individual pieces. "Our critical infrastructure is complex, highly interdependent, and

increasingly software defined. MIT has created tools and techniques that can help achieve a redefined strategy for defending it."

#### Register to Explore the Global Threat Landscape: CyberSecure Conference

The MIT Technology Review cybersecurity conference, CyberSecure, explores the global threat landscape and the essential tools companies need to defend against the threat of cyber attacks. Two CAMS researchers, Dr. Keri Pearlson and Shaharyar Kahn, will be speaking at this event, so our CAMS community can attend using a discount code (the code is 'CAMS20') for



20% savings on registration. The event is being held virtually on **November 16-17, 2021**. You can see the full agenda and register for the event at: <u>https://event.technologyreview.com/cyber-secure-2021/?discount=CAMS20#register</u>

## **Upcoming CAMS Events – Please hold these dates**

Member's Only Webinars: December 2

Friday Research Team Meetings: CAMS informal research team meetings are now virtual and open to anyone in the CAMS community who would like to attend. Held most Fridays from 11:30-12:30pm Eastern. The topic for each meeting is announced on Monday of the week. Interested in joining? Send a note to the CAMS directors to join the email list.

**Cybersecurity Executive Education Programs Developed by CAMS** 

Cybersecurity Leadership for Non-Technical Executives (Live online): 2022 Dates TBA Online Program: | Nov 4-Dec 23 | Feb 2-Mar 23, 2022

NEW: MIT xPro Professional Certificate in Cybersecurity: November 3, 2021 | Dec 7, 2021

## CAMS In the News

October 22, 2021:Irving Wladawsky-Berger wrote a blog post: "The Complex Interplay Between Cybersecurity and Regulatory Compliance" link: <u>https://bit.ly/3EA8bLd</u>

September 30, 2021: Keri Pearlson published a paper in the Harvard Business Review: "How Yahoo Built a Cybersecurity Culture" link: <u>https://bit.ly/2ZP3azD</u>

September 8, 2021: Keri Pearlson joined George Finney for an episode of the Well Aware Security Show: "What Does Cybersecurity Culture Even Mean? With Dr. Keri Pearlson" link: <u>https://spoti.fi/3kjmAnt</u>

August 13, 2021: Irving Wladawsky-Berger wrote a blog post: "The New Cyber Defense Collaborative" Link: <u>https://bit.ly/3yxKorW</u>

## <u>A Few of the Most Recent CAMS Research Papers</u>

(Available to CAMS Members at https://cams.mit.edu/members-only/)

"Trusting the Needle in the Haystack: Cybersecurity Management of AI/ML Systems" by Sanjana Skukla, José Ignacio Parada, and Keri Pearlson. October 2021.

"The Cybersecurity Skills Survey: Response to the 2020 SIM IT Trends Study" by Chris Maurer, Mary Sumner, Dan Mazzola, Tim Jacks, and Keri Pearlson. June 2021.

"A Systematic Framework to Understand Transnational Governance for Cybersecurity Risks from Digital Trade" by Huang, Madnick, Choucri, and Zhang. June 2021.

"Convergence and Divergence of Regulatory Compliance and Cybersecurity" by Angelica Marotta and Stuart Madnick. June 2021.

"Applying the Lessons from the Equifax Cybersecurity Incident to Build a Better Defense" by Ilya Kabanov and Stuart Madnick. June 2021.