



Cybersecurity at MIT Sloan
Interdisciplinary Consortium for Improving Critical Infrastructure
Cybersecurity (IC)³

Life Sciences Cybersecurity Executive Roundtable
May 29, 2019

 **Dr. Keri Pearlson**
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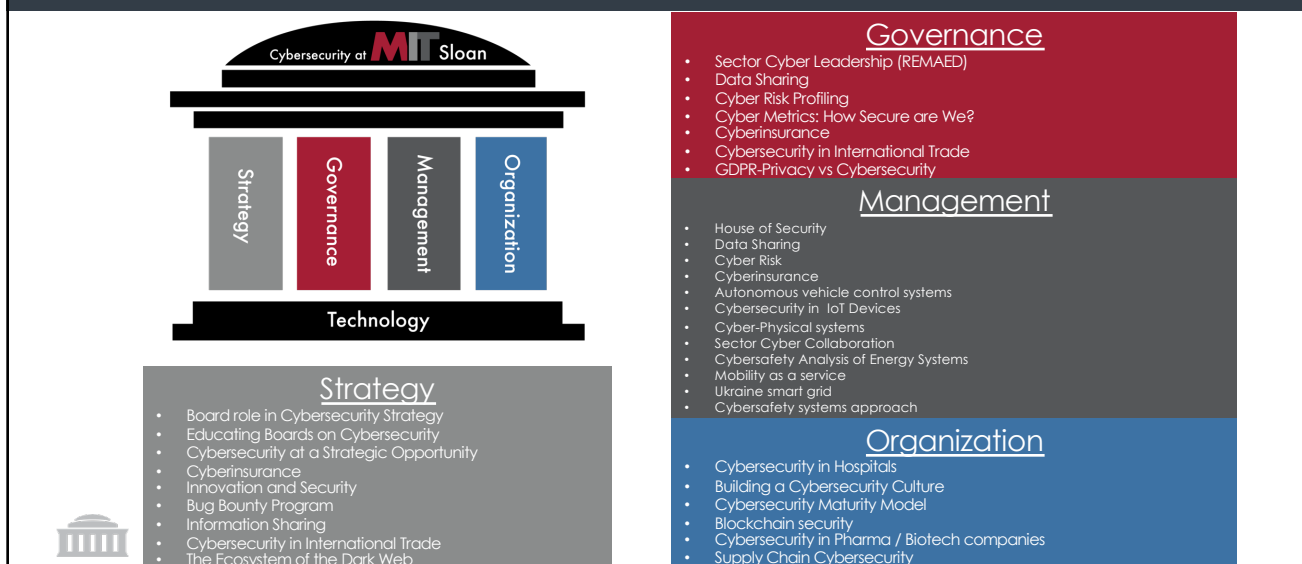
Round Table Kick Off Meeting Agenda



5:30	Kick Off
10 Min	Introduction
30 Min	Hot Topics Discussion
30 Min	CAMS Research Showcase
20 Min	Proposal for going forward
7:00	Adjourn



CAMS has a large and robust research program





Chatham House Rule:



To encourage interactivity, we will use Chatham House rule

"Under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed."

Introductions



Please introduce yourself. Tell us:

Your Name

Your Company

Your Position/Interest in Cybersecurity

**One of your cybersecurity-related priorities this
year (2019)**

Hot Topics Discussion



Open Discussion:

**What is the most pressing
cybersecurity concern you face right
now?**



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Building Organizational Cybersecurity Culture
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Critical Infrastructure Continues to be Hacked

Home » Delta Air Lines » Is Hacking to Blame for Delta Outage?

DELTA AIR LINES NEWS

IS HACKING TO BLAME FOR DELTA OUTAGE?

By MATTHEW / JANUARY 29, 2017 / 4 COMMENTS

The FAA has **announced** a domestic ground stop on all Delta flights—

SECURITY ALERT
By Tony Bradley, PCWorld | NOV 20, 2011 8:44 PM PT

NEWS
Water Utility Hacked: Are Critical Systems Vulnerable?

Many are reporting...

A water utility in Illinois was reportedly hacked in a cyber attack... aren't clear, but the act alone demonstrates how vulnerable our... Acquisition) networks are, and the p... States.

The FBI and DHS are investigating t... company that makes the software u... remotely shut it down. The attacker...

RUSSIA

The Ukrainian Power Grid Was Hacked Again

KIM ZETTER
Jan 10 2017, 9:07am



Image: Theodore Scott/Flickr

Experts say the country appears to be a "testbed" for cyber attacks that could be used around the world.

Cyber attacks on systems at a water utility, a scarring reality

March 23, 2016 By Pierluigi Paganini

According to the recent Verizon breach digest for March 2016, hackers breached a water utility and manipulated systems for water treatment and flow control.

The story that I'm telling you is very disturbing, according to the Verizon breach digest for March 2016 a group of hackers breached a water utility and manipulated systems for water treatment and flow control.

The Verizon breach digest reports a number of cyber attacks including one against an unnamed water utility, described in the document as the Kemuri Water Company (KWC).

The operator behind the water utility hired Verizon to assess its systems, during the investigation the experts discovered evidence of cyber attacks.



A Cyberattack Hobbles Atlanta, and Security Experts Shudder

March 27, 2018

The New York Times

1.9 Billion

The number of records exposed by data breaches in the first quarter of 2019. This is the largest number of exposed records in a Q1 ever, putting 2019 on pace for “worst year on record for publically reported breaches”

Sources: Risk Based Security, The 2019 Q1 Data reach QuickView Report, <https://pages.riskbasedsecurity.com/2019-q1-breach-quickview-report>, (accessed May 29, 2019)

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“Only two types of organizations:
Those that know they have
been attacked, and
Those that don’t YET know
that they have been
attacked.”

- Professor Stuart Madnick

Sources: Risk Based Security, The 2019 Q1 Data reach QuickView Report, <https://pages.riskbasedsecurity.com/2019-q1-breach-quickview-report>, (accessed May 29, 2019)

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84%

**The percent of cyber attacks due to human error
(such as using easy-to-guess passwords, leaving
physical devices in an unsafe areas, failing to
apply a patch)**

Source: <https://securityintelligence.com/news/insider-threats-account-for-nearly-75-percent-of-security-breach-incidents/>

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Audience Participation...

(raise your hand)

**Have you ever received a
phishing email?**

**Have you clicked on the
link?**

Cybersecurity is a Big Problem



**Organizational cybersecurity
requires more than just the latest
technology.**

**To secure an organization, everyone
in the organization must act to
reduce risk.**

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CAMS Research: Organizational Cybersecurity Culture



Research Question:

**How can we understand, shape and
align the beliefs, values and
attitudes of their organization with
cybersecurity goals?**

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Defining Cybersecurity Culture



Cybersecurity Culture: The **attitudes, beliefs, and values** (unwritten rules) that drive **employee behaviors** that protect and defend the organization from cyber risks.

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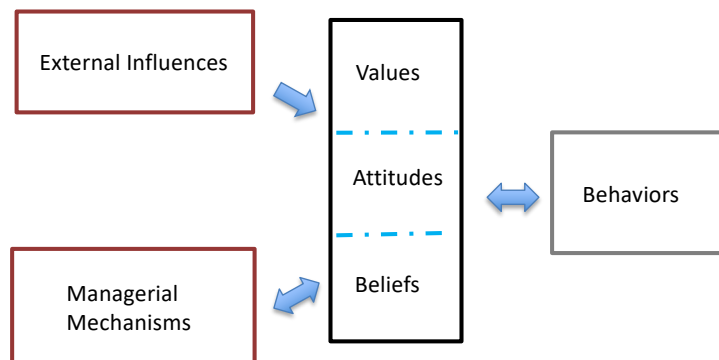
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Audience Participation...

**What is one thing
you/your organization
has done to drive
cybersecure behaviors?**

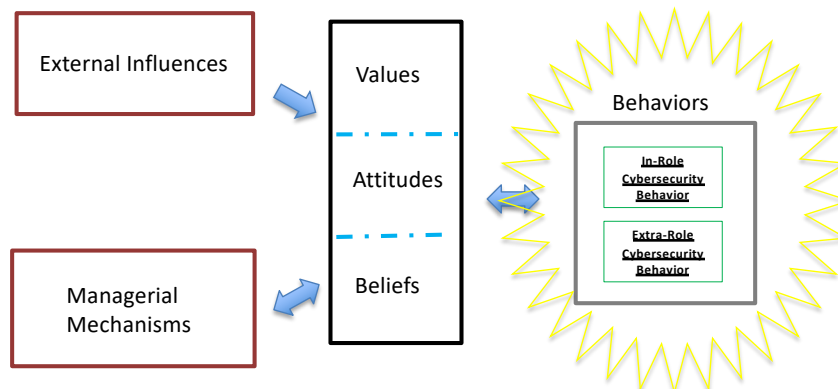
Cybersecurity Culture Model



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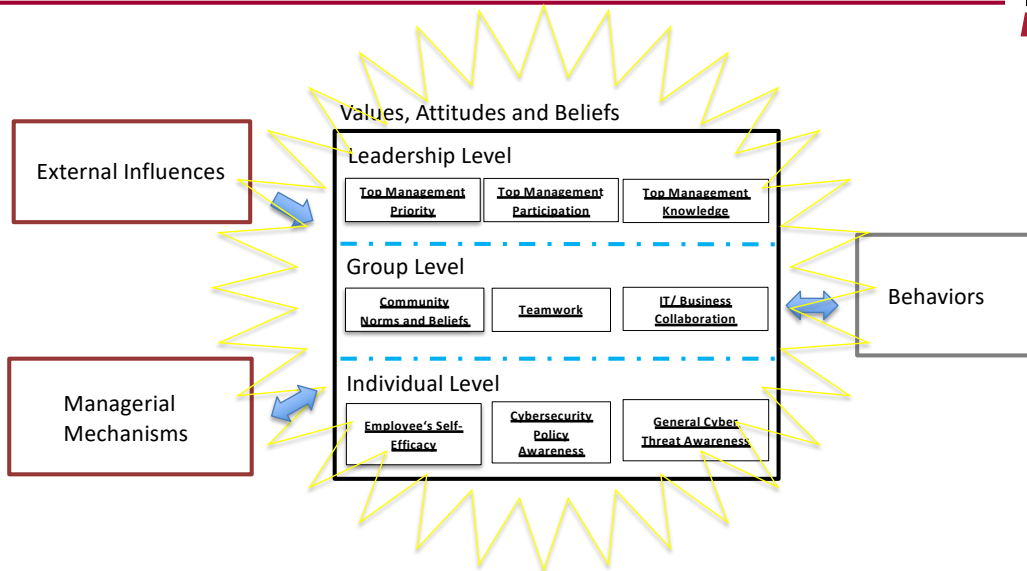
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Cybersecurity Culture Model



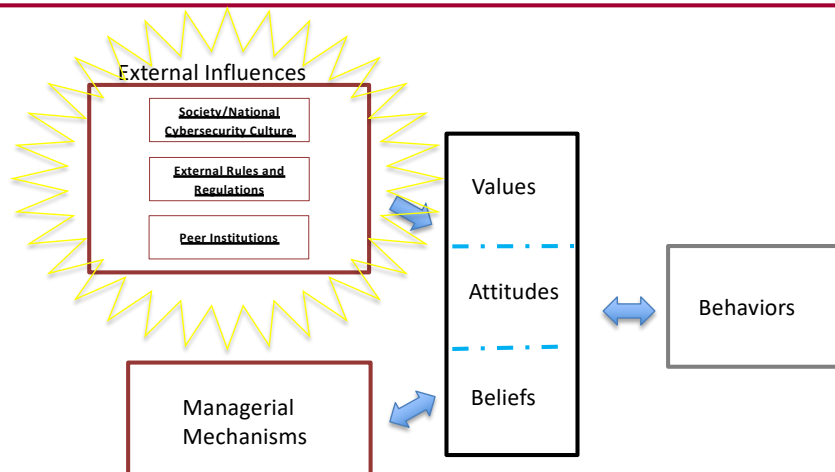
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Cybersecurity Culture Model



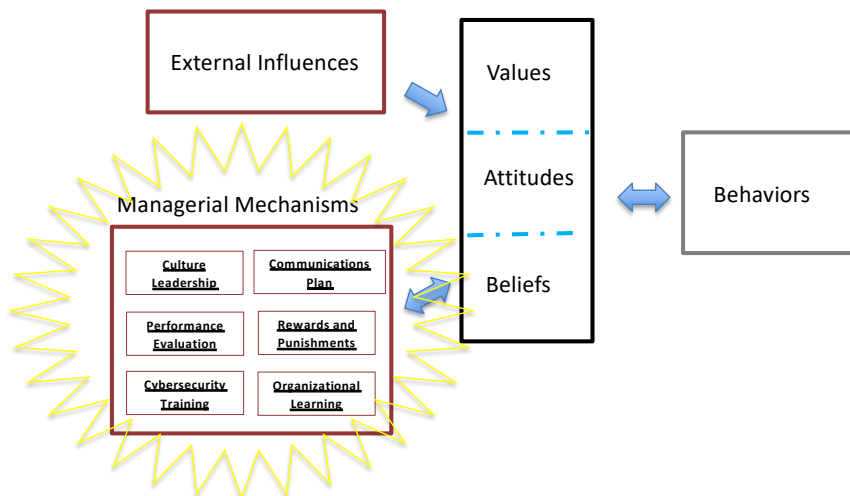
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Cybersecurity Culture Model



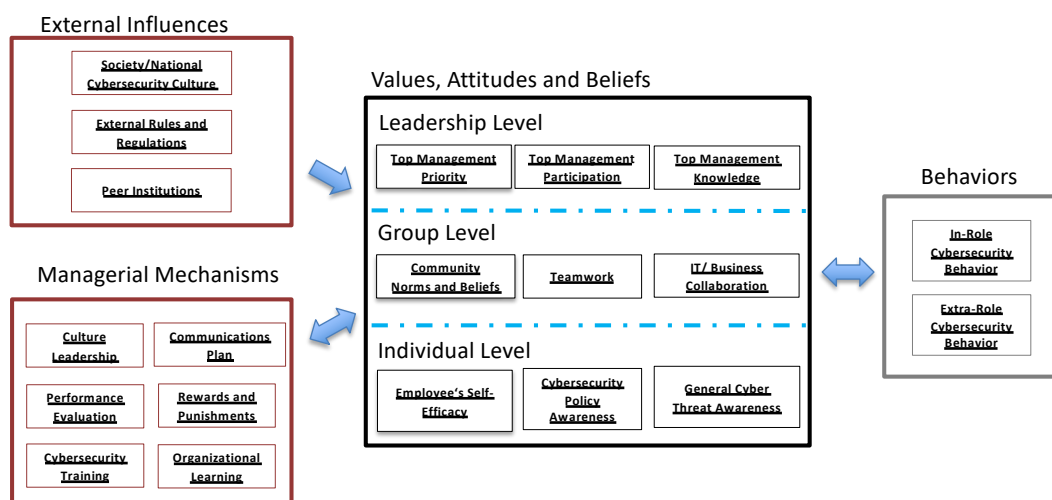
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Cybersecurity Culture Model



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Cybersecurity Culture Model



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Call to Action:

3 Things You Can Do Today



1. Identify the values, attitudes and beliefs that drive cybersecurity (and that undermine it) around here. **Reinforce** the ones that help keep you and your company secure.
2. Educate, Communicate, Advocate: Once a year compliance training is not enough (Equifax, Target, TJX, etc. were preventable). **Create cyber moments** at the beginning of each meeting to share an idea with your colleagues.
3. Find ways to create **personal responsibility** for keeping the organization cybersecurity (marketing techniques, communications plans, etc.)

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PROPOSAL FOR ROUNDTABLE

Proposal and Discussion for Moving Forward with Roundtable



- We will focus on managerial, leadership and strategic cybersecurity topics to provide a forum for life sciences cybersecurity leaders to find actionable ways to be more secure.
- Meet quarterly for 90 min at CAMS office (Suggested 2019 meetings: one the week of September 9, 2019, another the week of December 2, 2019)
- Agenda includes hot topics discussion and CAMS research showcase.
- Invoke “Chatham House Rules” – informal agreement about participation, idea sharing, and protecting sources (no formal agreements)
- We will create a 1-page summary of each meeting suitable for participants to share with colleagues
- We will offer this at no cost to participants in 2019 as long as a few companies join CAMS.
- We will evaluate how it’s going in Q4 and decide on plans for 2020
- We will have volunteers cover the costs of refreshments (see sign up).

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Want to know more about our research?



THANK YOU!



Use this QR Code to take
our survey to help us with
our model



**Join us! Our research is supported by
companies like yours and many others from
numerous industries.**

**More info available at: <https://cams.mit.edu> or
contact me directly: kerip@mit.edu**

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