Security Education

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Description

This breakout session will address two of the most important issues today and next ten years in cybersecurity education. These issues need to be deliberated because they have consequences for you, your students, your institutions, and the nation.

Workforce composition: More people, more diverse, and more qualified? How can such workforce composition be achieved? What is happening and what needs to be created for such a workforce?

Teaching content: What should we be teaching to what students? What will become obsolete? Which material is the most important to be taught?

Topic #1: What is Cybersecurity?

Cybersecurity is not its own discipline, yet, and may never be.

Multi/inter-disciplinary aspects of cybersecurity make it hard to institutionalize and expand cybersecurity as a sustainable field of study in colleges and universities.

These institutional barriers are thwarting workforce development.

This trend appears to be repeating itself as cybersecurity moves into K-12.

K-12 cybersecurity has an additional confusion about what it is. Cybersecurity is often taught as cybersafety in K-12.

Topic #2: What is the Cybersecurity Workforce?

There is a mismatch - what should be taught is sometimes unclear for academia and for employers?

The field is evolving rapidly.

The interdisciplinary aspect of cybersecurity is challenging.

There are many different curricula.

Teachers do not know what students background knowledge & experience will be.

Topic #3: Availability of Shared Infrastructure and Resources

We could use more investment in common resources (labs, teaching resource, hardware).

"Availability and Sustainability of Infrastructure" is important to consider.

Especially at small, teaching universities, hardware & software may be unaffordable.

Sharing of other resources (e.g., curriculum) and best practices can enable growth of cybersecurity education.

Topic #4: Broadening Participation in Computing (BPC)

BPC appears to be fragmented and an afterthought.

While RFPs ask for a BPC project, there might be some mismatch between the BPC plan and the proposed research.

Investment in what works - sharing, and scaling should be prioritized.

Proposition

NSF funded workshop on cybersecurity education:

- Identify (common) content to teach (evolves rapidly);
- Exploring how resources can be shared;
- Characterize cybersecurity workforce.