

# NICE | Conference and Expo 2022

JUNE 6 - 8, 2022 | WESTIN PEACHTREE PLAZA | ATLANTA, GA

## DEMYSTIFYING CYBERSECURITY

Integrated Approaches to  
Developing Career Pathways

**FIU** | FLORIDA  
INTERNATIONAL  
UNIVERSITY

 **NEW  
AMERICA**

# NICE

Conference  
and Expo  
**2022**

JUNE 6 - 8, 2022 | WESTIN PEACHTREE PLAZA | ATLANTA, GA

## DIAMOND

**ThriveDX**

**WGU**   
THE UNIVERSITY OF YOU

## GOLD

**CompTIA**

 **cyberbit**

 **TREND MICRO** | education 

 **PURDUE UNIVERSITY** | cyberTAP

## CONFERENCE BAG

 **CYBER FLORIDA**  
at the UNIVERSITY OF SOUTH FLORIDA

## MOBILE APP

 **OFFENSIVE**  
security

## REGISTRATION

**SANS** | **GIAC**  
CERTIFICATIONS

## LOCAL HOST PARTNER

  
**GEORGIA CYBER CENTER**

  
**Middle Georgia State University**  
SCHOOL OF COMPUTING

  
**Spelman College**  
*A Choice to Change the World*

**THANK YOU  
SPONSORS**

**FIU** | FLORIDA INTERNATIONAL UNIVERSITY

 **NEW AMERICA**

# INNOVATIVE APPROACHES TO CYBERSECURITY EDUCATION AND WORKFORCE DEVELOPMENT

## **Safa Shahwan Edwards**

Deputy Director, Cyber Statecraft Initiative, Scowcroft Center  
for Strategy and Security  
Atlantic Council

## **Willie Henderson**

Cyber Education Specialist  
CYBER.ORG

## **Lien Diaz**

Director, Educational Innovation and Leadership,  
Constellations Center for Equity in Computing  
Georgia Tech

## **Moderator: Michael Prebil**

Policy Analyst, Center on Education & Labor  
New America

# Get Involved in K12 Cybersecurity Education



**Dec 5-6, 2022 | St. Louis, MO**

*Submit a presentation by June 24!*

[k12cybersecurityconference.org](https://k12cybersecurityconference.org)

## **K12 Cybersecurity Education Community of Interest**

Monthly Meetings

Active Projects

Resources

And more!

[nist.gov/nice/community](https://nist.gov/nice/community)



# CAE DESIGNATION CEREMONY

Lynne Clark

Chief, National Centers of Academic Excellence in  
Cybersecurity (NCAE-C) Program

National Security Agency

*National Centers of Academic Excellence in  
Cybersecurity*



*2022 Designation Ceremony*

# *Athens State University*



*Athens, AL*

*Bachelor of Science in Management of Cybersecurity Operations with  
a minor in Information Systems Management*

# *Wallace State Community College*



*Hanceville, AL*

*Cybersecurity and Networking Technology AAS*



# *The University of Arizona*



*Tuscon, AZ*

*Master of Science in Management Information Systems, Concentration: AZSecure*

# *California State Polytechnic University, Pomona*



*Pomona, CA*

*BS in Computer Information Systems Option with Information Security and Forensics Career Emphasis*

# *California State University, San Bernardino*



*San Bernardino, CA*

*Bachelor of Science in Information Systems and Technology*

# *Fullerton College*



*Fullerton, CA*

*Cybersecurity Analyst Certificate*

# *Colorado Mesa University*



*Grand Junction, CO*

*Bachelor of Computer Science with Professional Certificate in Cybersecurity*

# *Colorado State University-Pueblo*



*Pueblo, CO*

*Bachelor of Science in Computer Information Systems, (Cyber Security Emphasis)*

# *Eastern Florida State College*



*Bachelor of Applied Science in Computer Information Systems Technology Cybersecurity Specialization  
with the Advanced Technical Certificate in Network Security Forensics*

# *Nova Southeastern University*



*Ft. Lauderdale, FL*

*Master of Science in IA & Cybersecurity*



# *Augusta University*



K.D. BUFFORD PHOTOGRAPHY

*Augusta, GA*

*Bachelor of Science with a major in Cybersecurity*

# *College of Coastal Georgia*



*Brunswick, GA*

*Bachelor of Science with a major in Criminal Justice Concentration in Cyber Defense*

# *Georgia State University*



*Atlanta, GA*

*Master of Science in Information Systems (MSIS) with a concentration in Cybersecurity*

# *Gwinnett Technical College*



*Lawrenceville, GA*

*Associate of Applied Science in Cybersecurity*

# *Kennesaw State University*



*Kennesaw, GA*

*Bachelor of Science in Cybersecurity*

# *College of DuPage*



*Glen Ellyn, IL*

*Cybersecurity and Defense AAS Degree*

# *Loyola University Chicago*



*Chicago, IL*  
*BS in Cybersecurity*

# *University of Illinois at Springfield*



*Springfield, IL*

*Information Systems Security Bachelors Degree*



# *Purdue University Global*



*West Lafayette, IN*

*B.S. in Cybersecurity*

# *Fort Hays State University*



*Hays, KS*

*Master of Professional Studies - Cybersecurity*

# *Bay Path University*



*Longmeadow, MA*

*B.S. Cybersecurity: Digital Forensics & Incident Response*

# *Davenport University*



*Grand Rapids, MI*

*Bachelor of Science Cyber Defense*

# *Ferris State University*



*Big Rapids, MI*

*Bachelor of Science in Information Security & Intelligence*

# *University of Detroit, Mercy*



*Detroit, MI*

*Master of Science in Information Assurance/Cybersecurity*

# *Walsh College*



*Troy, MI*

*Bachelor of Science in Information Technology Business Information Systems Concentration*

# *Metro State University*



*St. Paul, MN*

*Bachelor of Science in Cybersecurity*



# *University of Central Missouri*



*Warrensburg, MO*

*Cybersecurity, B.S.*

# *University of Nebraska, Omaha*



*Omaha, NE*

*Bachelor of Science in Cybersecurity*

# *Pitt Community College*



*Winterville, NC*

*Associate in Applied Science in Information Technology: Cyber Security*

# *Minot State University*



*Minot, ND*

*B.S. Management Information Systems*

# *Lakeland Community College*



*Kirtland, OH*

*Associate of Applied Business, Operating Systems/Networking Concentration*

# *Oklahoma Christian University*



*Edmond, OK*

*Bachelor of Science in Computer Science with Cybersecurity*

# *Chemeketa Community College*



*Salem, OR*

*A.A.S. in Computer and Information Technology*

# *Northampton Community College*



*Bethlehem, PA*

*AAS in Information Security*



# *West Chester University of Pennsylvania*



*West Chester, PA*  
*Certificate in Computer Science*

# *The Citadel*



*Charleston, SC*

*B.S. in Computer Science with a minor in Cybersecurity*

# *Tennessee Tech University*



*Cookeville, TN*

*Computer Science, Information Assurance and Cyber-Security Concentration, B.S.*

# *University of Memphis*



*Memphis, TN*

*Bachelor of Science, Cybersecurity Concentration*

# *Sam Houston State University*



*Huntsville, TX*

*Bachelor of Science, Major in Computing Science (Information Assurance, IA)*

# *University of Dallas*



*Irving, TX*

*Master of Science Cybersecurity*

# *Western Governors University*



*Salt Lake City, UT*

*Bachelor of Science in Cybersecurity and Information Assurance*

# *Hampton University*



*Hampton, VA*

*Bachelor of Science in Cyber Security – Computer Science Track*



# *Laurel Ridge Community College*



*Middletown, VA*

*Associate of Applied Science in Cybersecurity*

# *Norfolk State University*



*Norfolk, VA*

*B.S. in Computer Science – Track CYBT*

# *Eastern Washington University*



*Cheney, WA*

*Bachelor of Science in Computer with Cyber Security Minor*

# *Whatcom Community College*



*Bellingham, WA*

*Associate in Science, Computer Information Systems*

# *Chippewa Valley Technical College*



*Eau Claire, WI*

*Information Technology-Network Specialist Associate Degree*

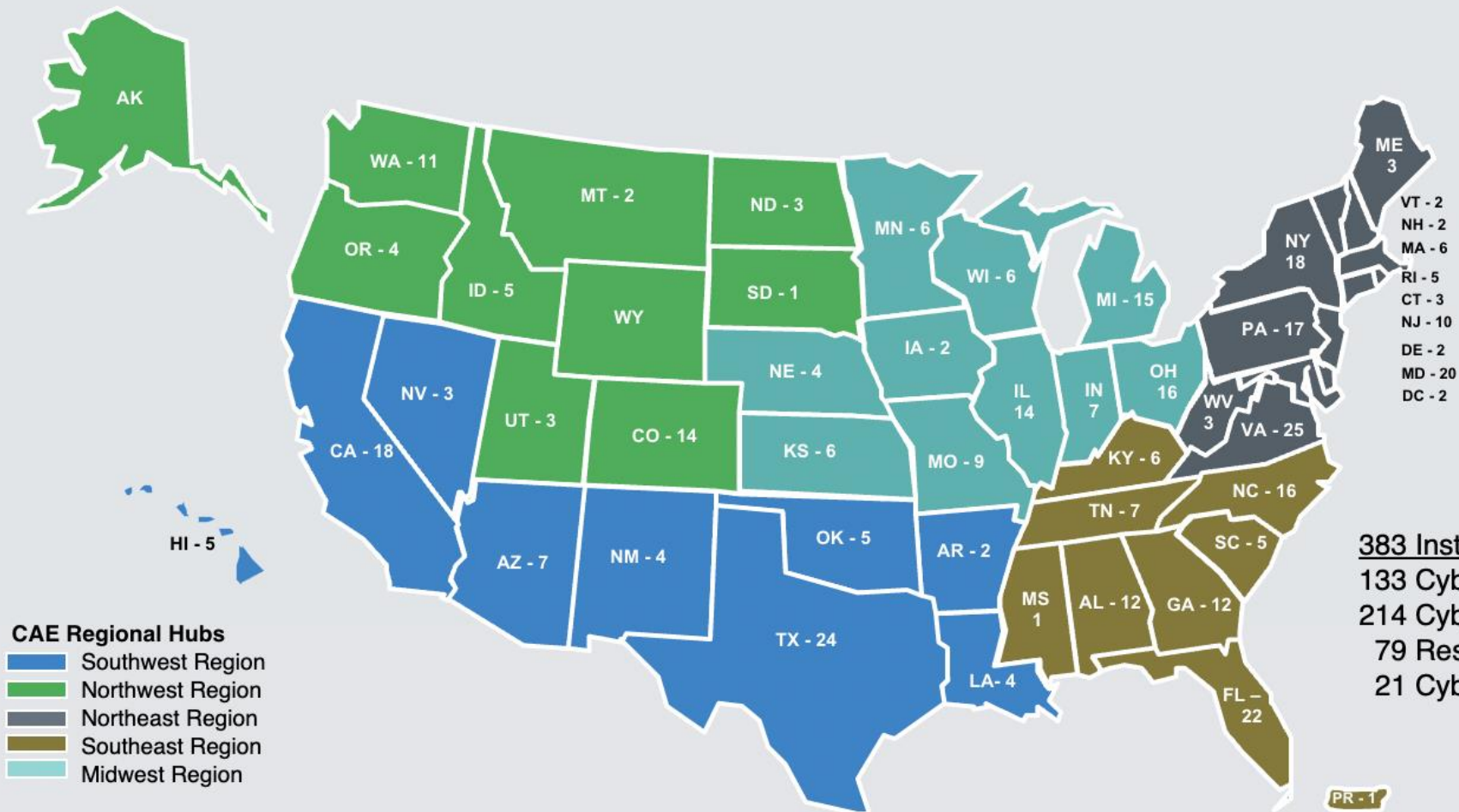
# *Waukesha County Technical College*



*Pewaukee, WI*

*Associate of Applied Science- IT Cybersecurity Specialist*

# NCAE-C Regions and Designations



**383 Institutions, 472 Unique Designations**  
 133 Cyber Defense (Associates)  
 214 Cyber Defense (BA-PhD)  
 79 Research  
 21 Cyber Operations (BA-PhD)

As of 3 June 2022

*National Centers of Academic Excellence in  
Cybersecurity*



**CONGRATULATIONS!**

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*2022 Designation Ceremony*



**BREAK**

10:00 a.m. – 10:15 a.m.

# BREAKOUT SESSIONS

10:15 a.m. - 11:00 a.m.

## The Impact and Role of Academia in Government's Cybersecurity Strategies

6<sup>th</sup> floor, Chastain 1 & 2

## Accelerating to Victory! Leveling the Playfield in Information Security through an Accelerated Training Program

6<sup>th</sup> floor, Chastain D & E

## Signature Pedagogy in Cybersecurity: An Emerging Perspective

6<sup>th</sup> floor, Chastain F & G

## Apprenticeship Model to Develop Cyber Talent

6<sup>th</sup> floor, Chastain H,I,&J

# EXHIBIT HALL BREAK

**Augusta Ballroom, 7<sup>th</sup> Floor**  
11:00 a.m. – 11:30 a.m.

**NIST & CompTIA TECH SHOWCASE:**  
What Does CyberSeek Data Tell Us About  
the Challenge and Opportunity Ahead?

# BREAKOUT SESSIONS

11:30 a.m. - 12:15 p.m.

## Youth-to-Retirement Approach to Build a Cybersecurity Workforce

6<sup>th</sup> floor, Chastain 1 & 2

## A Diverse Cyber Academy for Diverse People

6<sup>th</sup> floor, Chastain D & E

## From Classroom to the Cyber Ops Center: Collegiate Workforce Development through Hands-on Application

6<sup>th</sup> floor, Chastain F & G

## Attracting Tomorrow's Cybersecurity Talent Today

6<sup>th</sup> floor, Chastain H,I,&J

LUNCH

**Peachtree Ballroom**

12:15 p.m. – 12:45 p.m.

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AMERICA**

ADDRESSING  
CYBERSECURITY  
WORKFORCE  
NEEDS OF SMALL  
AND MEDIUM  
SIZED BUSINESSES

**Debbie McLeod**

President & Director of Apprentice Program  
McLeod Information Systems

**Zachary Hodges**

Vice President & COO  
Cyber Security Solutions, Inc.

**Mark Lupo**

Business Education/Resilience Specialist  
University of Georgia SBDC

*Moderator: Roy Hadley Jr.*

Special Counsel and HBCU Team Leader  
Adams and Reese LLP

**BREAK**

1:30 p.m. – 1:45 p.m.  
2:30 p.m. – 2:45 p.m.



# NETWORKING BREAKS

1:45 p.m. - 2:30 p.m.

**Promote Career Discovery**

6<sup>th</sup> floor, Chastain D & E

**Modernize Talent**

6<sup>th</sup> floor, Chastain F & G

**Transform Learning Process**

6<sup>th</sup> floor, Chastain H,I,&J

# BREAKOUT SESSIONS

2:45 p.m. - 3:30 p.m.

## Designing a Sustainable Workforce Development Model through Customizable Upskilling and Reskilling Pathways

6<sup>th</sup> floor, Chastain 1 & 2

## The Role of Cybersecurity Leaders as Educators: Unconventional Approaches to Cybersecurity Talent Development and the Scarcity of Skill

6<sup>th</sup> floor, Chastain D & E

## Cyber4Work: Growing the Cyber Workforce in Mississippi

6<sup>th</sup> floor, Chastain F & G

## Integrating Emergency Management Principles into Cybersecurity Education

6<sup>th</sup> floor, Chastain H,I,&J

# EXHIBIT HALL BREAK

**Augusta Ballroom, 7<sup>th</sup> Floor**  
3:30 p.m. – 4:00 p.m.

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# Closing Remarks: Accelerating the Future of Computing and Cybersecurity

**Sethuraman Panchanathan**

15<sup>th</sup> Director

U.S. National Science Foundation (NSF)



# ACCELERATING THE FUTURE OF COMPUTING AND CYBERSECURITY

*Sethuraman Panchanathan*  
*National Science Foundation*

*NICE Conference*

*June 8, 2022*

# Mission

Promote the progress of science



NSF

Advance the national health, prosperity and welfare

Secure the national defense

To promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense.





**Global Competition**

**Defining  
Moment**



**Missing Millions**



**Bipartisan Support**





# Vision

Advancing the  
frontiers of research  
into the future

Ensuring  
accessibility and  
inclusivity

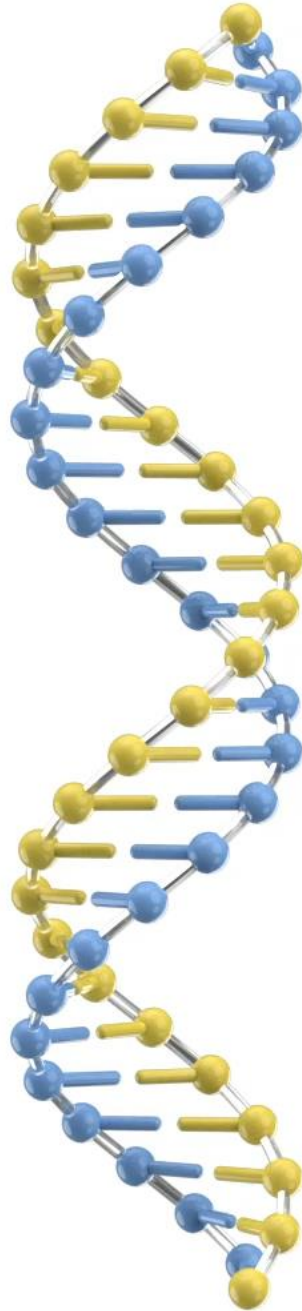
Securing global  
leadership



# DNA of NSF



**CURIOSITY-DRIVEN,  
DISCOVERY-BASED  
EXPLORATIONS**



**USE-INSPIRED,  
SOLUTIONS-FOCUSED  
INNOVATIONS**

# Computing for Everyone

2022

**TODAY**



**BROADENING PARTICIPATION IN STEM**

**2015**



**CSFORALL AND AP COMPUTER SCIENCE PRINCIPLES**

**2010s**



**SCRATCHJR AND SNAP**

**1998 AND 1988**



**LEGO/LOGO ROBOTICS KITS**

**2000s**

**RESEARCH INTO CHILDRENS' PROGRAMMING LANGUAGE**



**1970s**

**LOGO PROGRAMMING LANGUAGE FOR KIDS**



1970



# Investment to Impact: Artificial Intelligence (AI)

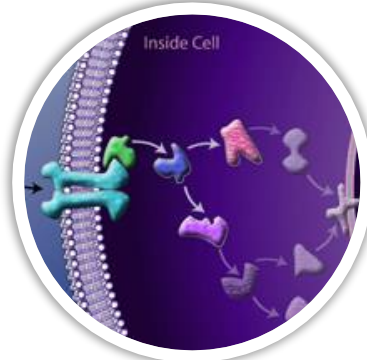
**1970s:  
MACHINE  
LEARNING**



**1970s:  
NATURAL LANGUAGE  
PROCESSING**



**1980s:  
BAYESIAN  
NETWORKS**



**1980s:  
INTELLIGENT TUTORING  
SYSTEMS**



**1990s:  
MEASURING FACIAL  
EXPRESSIONS IN SBE**



**NSF  
INVESTMENTS**

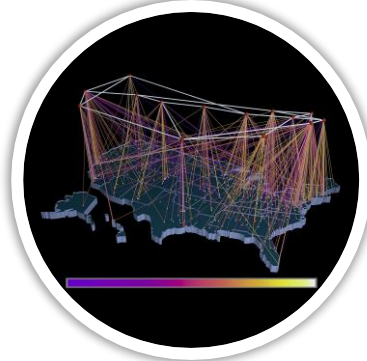
**CURRENT  
IMPACTS**



**DEEPSCALE: VISION  
SYSTEMS FOR SELF-  
DRIVING CARS**



**SPEECH RECOGNITION  
SOFTWARE**



**TRAFFIC PREDICTION  
AND ROUTING**



**AI INSTITUTE FOR  
STUDENT-AI TEAMING**



**EMOTIENT STARTUP**



# Framework for Advancing Computing and Cybersecurity



## STRENGTHENING DISCOVERY AND INNOVATION

Through **increased investments in the cybersecurity knowledge base and academic workforce.**



## INSPIRING THE MISSING MILLIONS

Using **interventions and capacity building** that enhance and broaden participation.



## DESIGNING FOR THE FUTURE

Founded in **cross-cutting partnerships and programs.**



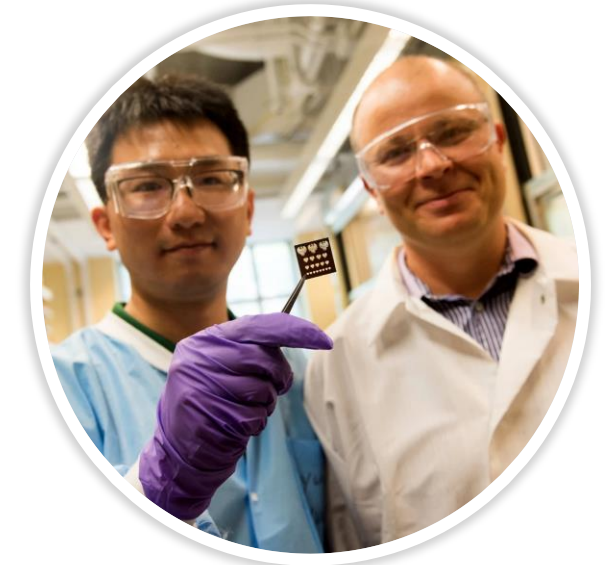
**SaTC**



**AI Institutes**

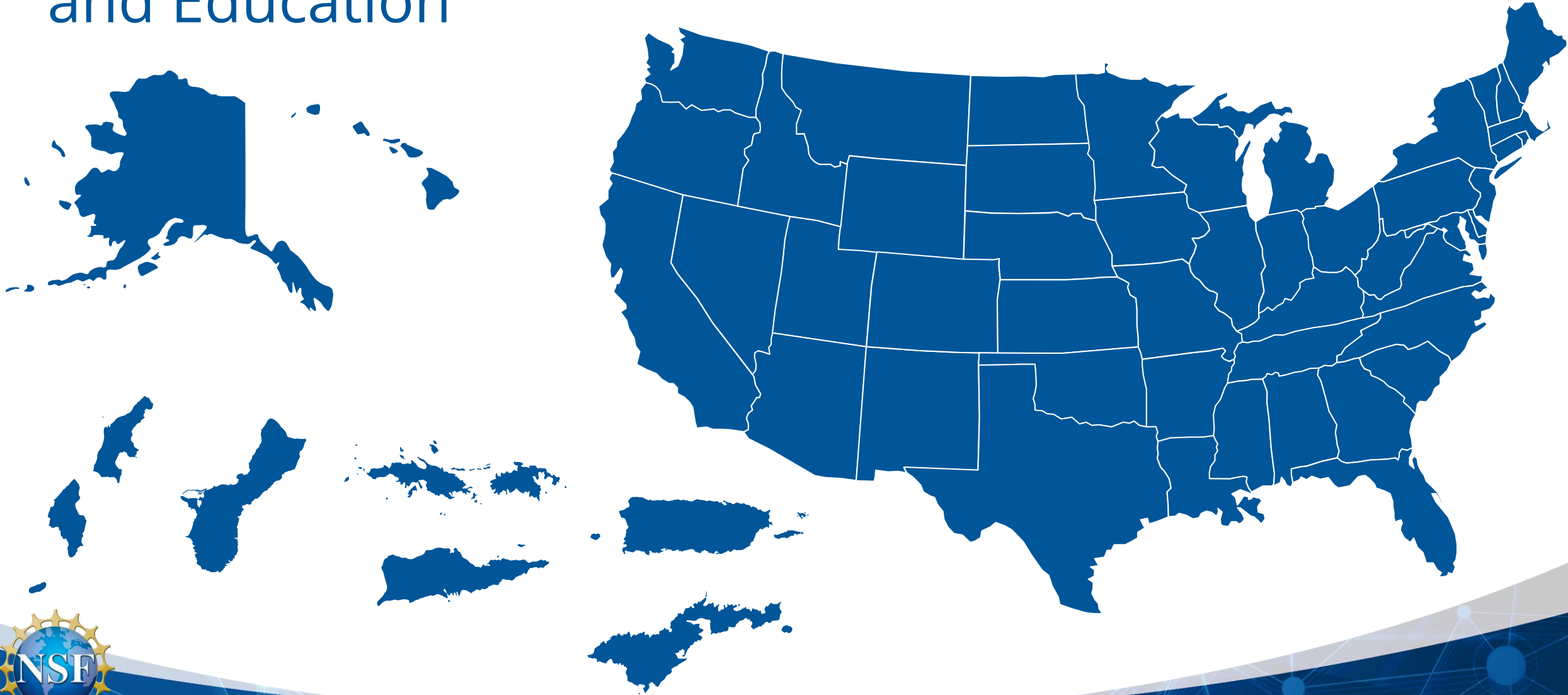


**CIFellows**

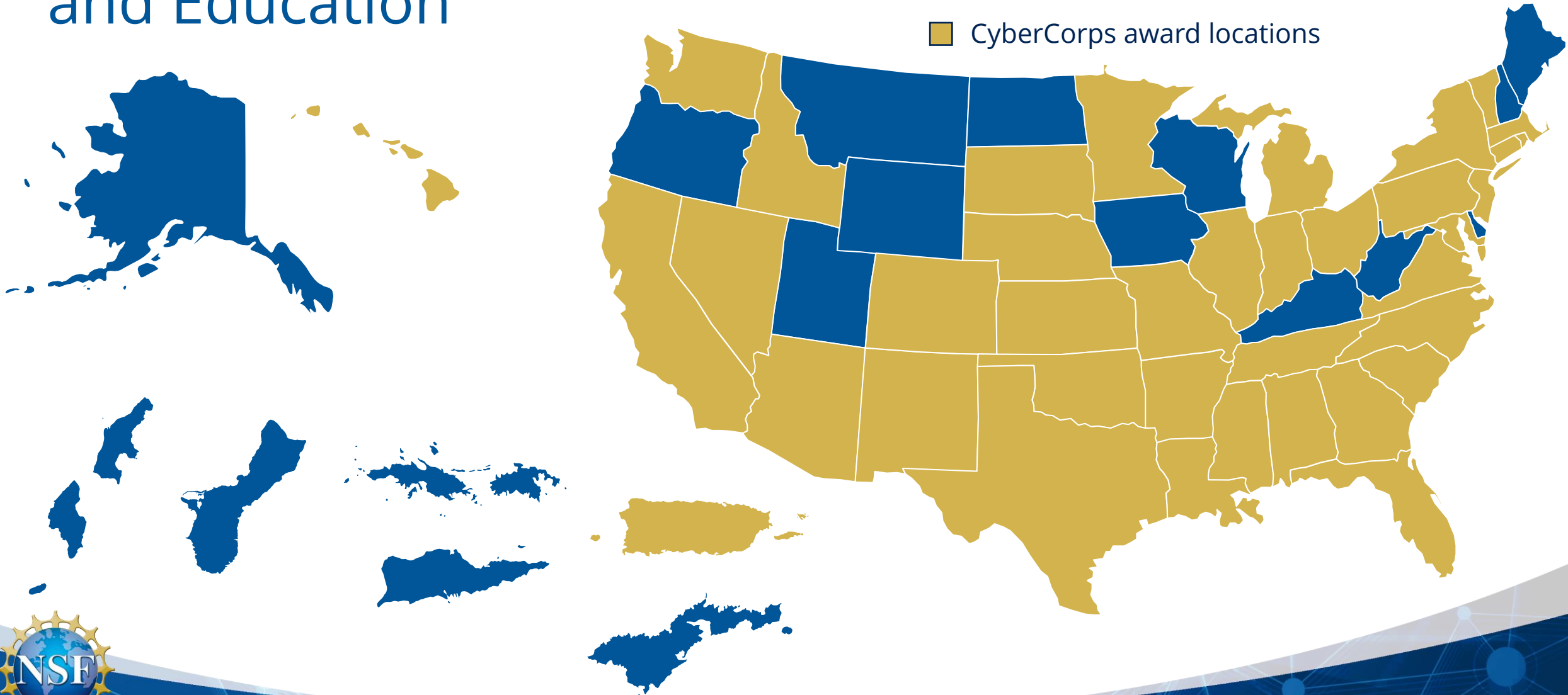


**Quantum Computing  
and Information  
Science Faculty Fellows**

# Scaling Cybersecurity Research and Education



# Scaling Cybersecurity Research and Education







**GenCyber**



**CSForAll**



**SaTC-EDU**



**NCyTE**

**TIP**

**Technology,  
Innovation and  
Partnerships**



# Accelerating Translation



**Accelerating  
Public-Private  
Partnerships**



**Pathways to  
Entrepreneurship**



**Regional  
Innovation  
Engines**



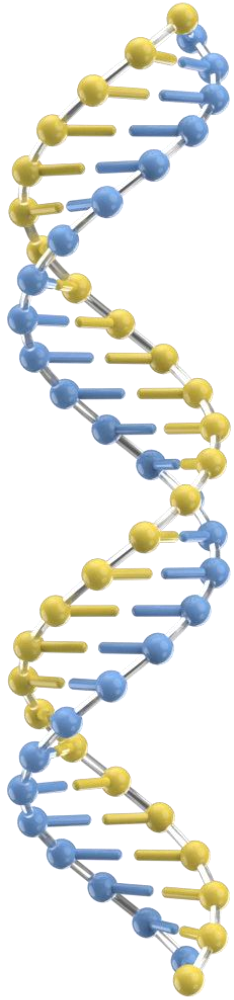
**Lab-to-Market  
Platforms**



**Translational  
Accelerators**

# Building Innovation Ecosystems

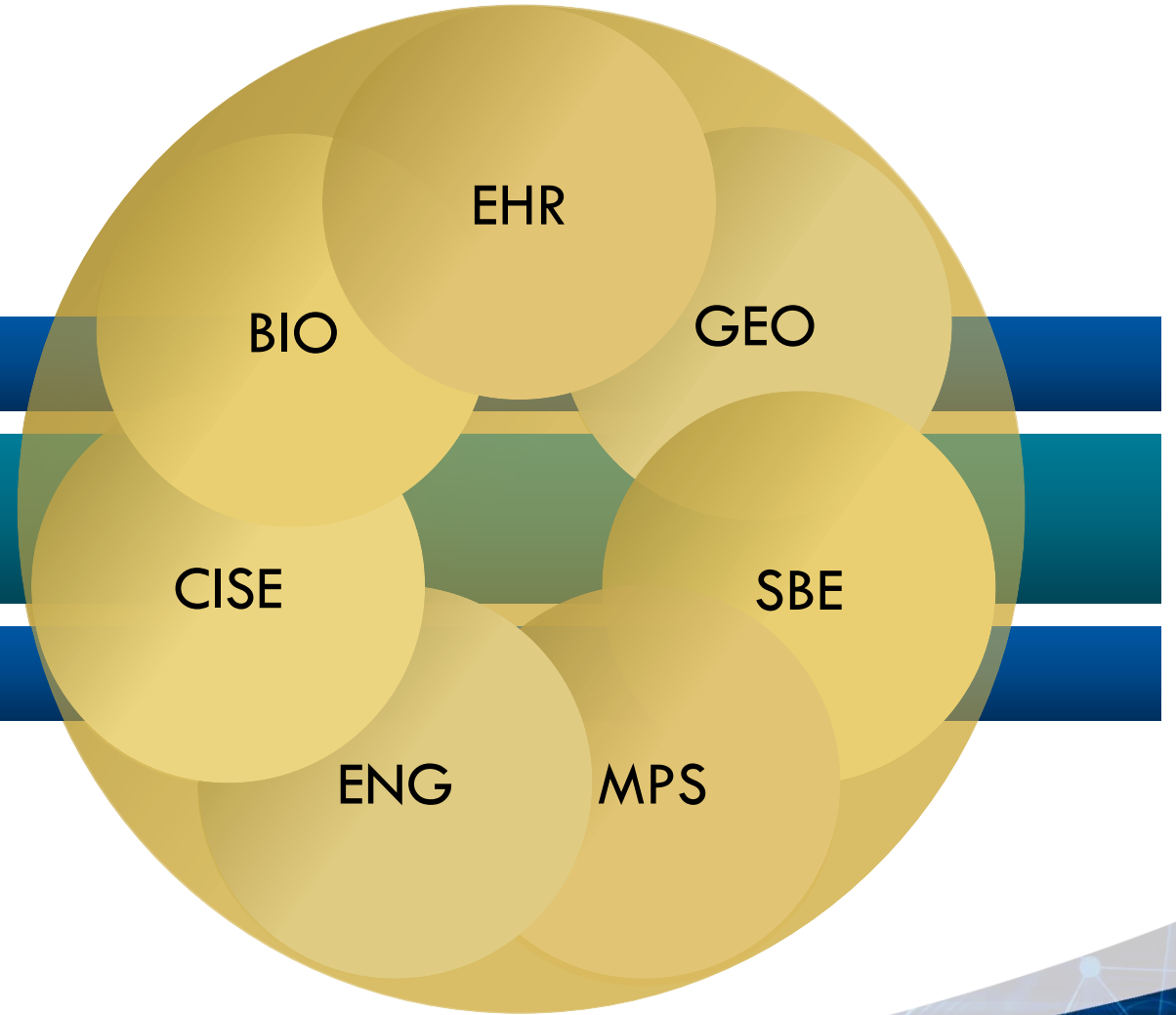




OIA

TIP

OISE



EHR

BIO

GEO

CISE

SBE

ENG

MPS





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**2023**



SAVE  
*the*  
DATE

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The Westin Seattle  
June 5 - 7, 2023

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**NICE**  
NATIONAL INITIATIVE FOR  
CYBERSECURITY EDUCATION

This event is supported by the National Initiative for Cybersecurity Education (NICE), a program of the National Institute of Standards and Technology in the U.S. Department of Commerce, under NIST Financial Assistance. Award number: 70NANB18H025

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