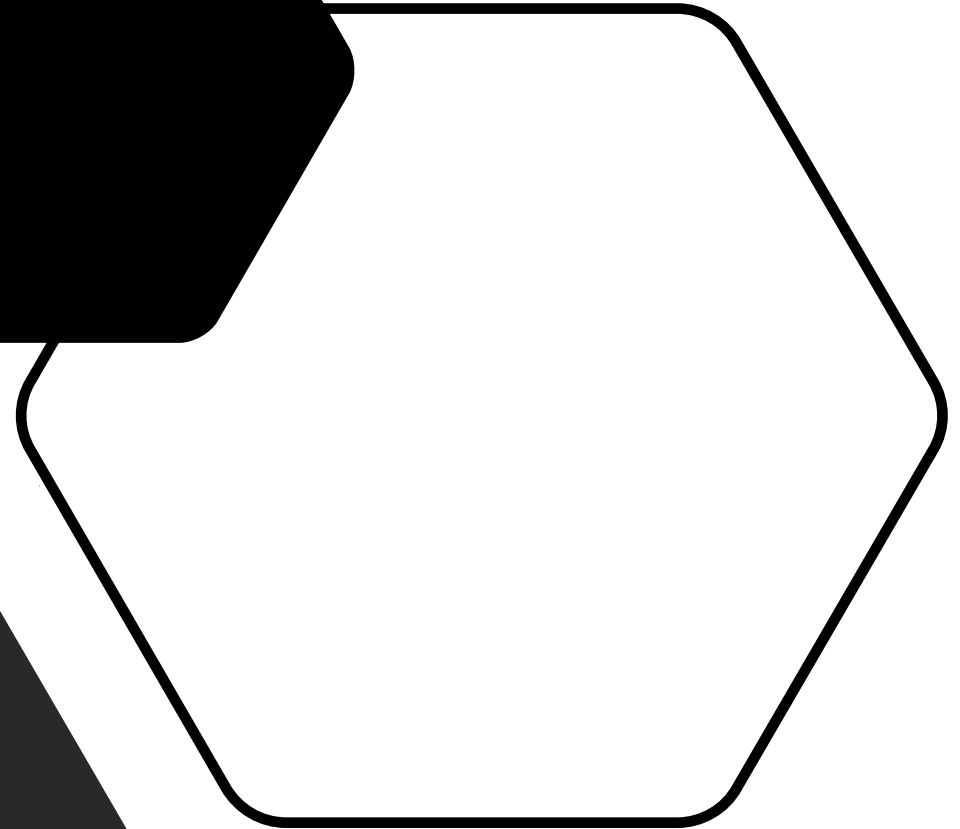
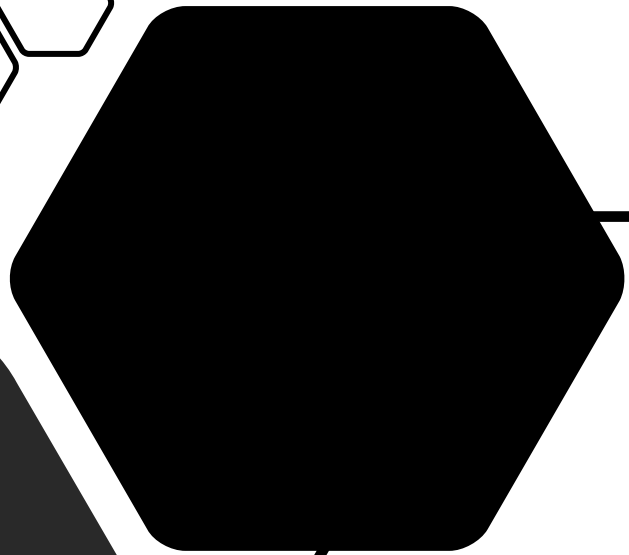
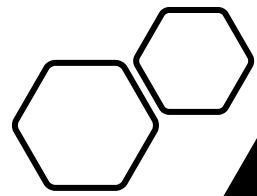


NSA “CAE-C in
Cybersecurity Education
Innovation”
Cybersecurity Faculty
Development





2 Awardees

Dakota State University Led Coalition of 9 institutions

University of Colorado Colorado Springs Led Coalition of 11 institutions



G. Tejay, Ph.D.



Gary Klein, Ph.D.

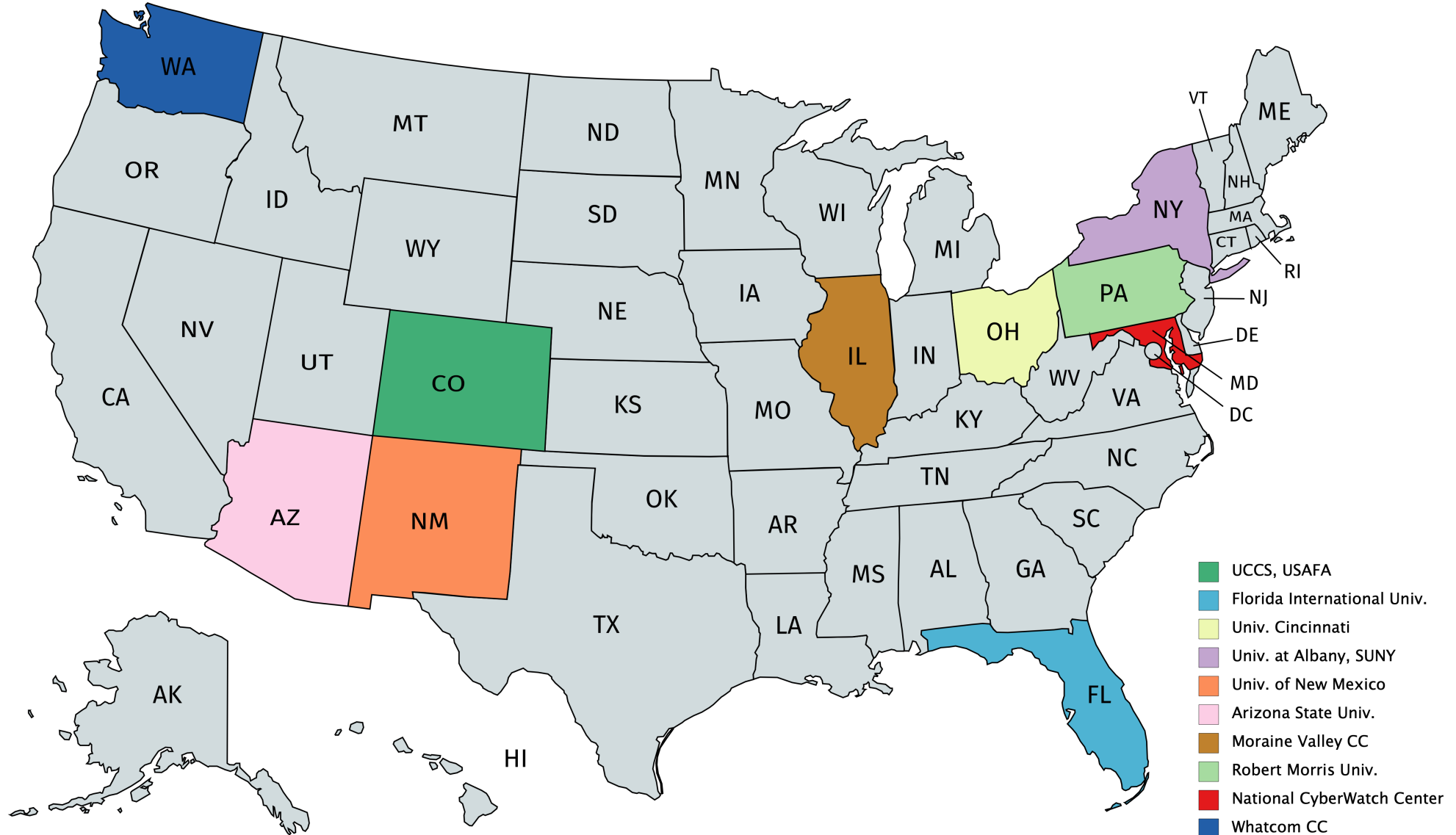


Robert Block, Ph.D.

PI TEAM

University of Colorado Colorado Springs (UCCS)

UCCS Led 11 Partner Institutions



IMPACT

Expand Knowledge Existing Faculty	Train 1,335 Faculty	Program Development 100 Institutions	Hybrid Courses (20) Workshops (35) Bootcamps (6)
Pedagogical Preparation	Train 200 Professors of Practice	4 Courses	4 Workshops
Grad Student Preparation	Train 250 Students	8 Grad Certificates	7 MS Pathways 6 PhD Pathways
Transitioning Military/Civil	Train 267 Personnel	MOS Pathways	100 Faculty Mentorships
Special Projects	Train 150 students	'Live Case Study' Field Trip (DC COS)	Cybersecurity Placement Program



Program Components

University of Colorado Colorado Springs

- **Cybersecurity Hybrid courses (120)**
 - Duration: 8-weeks, Blended
 - **Topics:**
 - Enterprise Information Security
 - Cybersecurity Governance
 - Applied Cryptography
 - Adv. Network & System Security
- **Cybersecurity Teaching workshops (120)**
 - Duration: 4-weeks, Online
 - **Topics:**
 - Blockchain
 - Malware Detection
 - Cybersecurity Law
 - Enterprise Information Security
- **Graduate Certificate (Online, 70)**
 - Cybersecurity Management
 - Network System Security

University at Albany, SUNY

Sanjay Goel, Ph.D.

Hybrid Cybersecurity Courses

- **Duration:** 8-weeks, Blended
- **Topics:** Digital Forensics, Incident Handling
- **Train:** 60 faculty

Online Teaching Workshops

- **Duration:** 4-weeks, Online
- **Topics:** Digital Forensics, Cyber Risk Analysis
- **Train:** 45 faculty

Graduate Certificate (Online)

- Information Security
- \$5000 Scholarship/student
- **Train:** 30 Students

University of Cincinnati

Chengcheng Li, Ph.D.

Hybrid Cybersecurity Courses

- **Duration:** 8-weeks, Blended
- **Topics:** Data-Driven Cybersecurity
- **Train:** 50 faculty

Online Teaching Workshops

- **Duration:** 4-weeks, Online
- **Topics:** Data-Driven Cybersecurity
- **Train:** 50 faculty

Graduate Certificate (Online)

- Data-Driven Cybersecurity
- \$5000 Scholarship/student
- **Train:** 30 Students

Graduate Certificate for Teachers & Instructors

- **Train:** 20 participants to teach entry-level cybersecurity courses

University of New Mexico

Xin 'Robert' Luo, Ph.D.

Hybrid Cybersecurity Courses

- **Duration:** 8-weeks, Blended
- **Topics:** Human Factors, Adv. IS Security
- **Train:** 40 faculty

Online Teaching Workshops

- **Duration:** 4-weeks, Online
- **Topics:** Intro. to Cybersecurity, IS Security
- **Train:** 40 faculty

Graduate Certificate (Online)

- Information Assurance
- \$5000 Scholarship/student
- **Train:** 20 Students

Florida International University

Alexander Perez-Pons, Ph.D.

Teaching workshops (100 Faculty)

- **Topics:** Fund. of Digital Forensics, Teaching Techniques in Digital Forensics.

Online courses (100 Faculty)

- **Topics:** Intro. to Digital Forensics, Network Forensics and Incident Response

Boot camps (100 Faculty)

- **Topics:** Digital Forensics, Network Forensics and Incident Response, Mobile Forensics, and Image and Video Forensics
- Week-long

Graduate Certificate

- Digital Forensics
- Online, 30 Students

Arizona State University

Brian Gerber, Ph.D.

Hybrid Cybersecurity Courses

- **Duration:** 8-weeks, Blended
- **Topics:** Integrated Emergency Management, Homeland Security
- **Train:** 80 faculty

Online Teaching Workshops

- **Duration:** 4-weeks, Online
- **Topics:** Emergency Management, Homeland Security
- **Train:** 80 faculty

Graduate Certificate (Online)

- Emergency Management
- \$5000 Scholarship/student
- **Train:** 20 Students

Pedagogical Preparation @ UCCS

Cybersecurity Pedagogical Course

8-week, Online

Train: 100 Professors-of-Practice



Robert Morris University

Lawrence Tomei, Ph.D.

- **Pedagogy and Technology for Cybersecurity Teaching Workshop**
 - 8 weeks, Online
- **Topics:**
 - Integration of technology
 - Development and evaluation of cyber curriculum
 - Educational leadership
- **Train:** 100 Professors-of-Practice

Moraine Valley Community College

John Sands

- **Faculty Development Workshops**
(5)
- **Train:** 100 faculty
- **Topics:** CISSP, CISA, CEH, Security+,
CCNA Security Operations, Palo
Alto Security Fundamentals and
Linux Professional Institute.

National CyberWatch Center

Casey O'Brien

- **Competency-based Mastery Learning (CBML) Curriculum and Career Pathways**
- **Train-the-Trainer workshops**
 - 50 Faculty
- **Topics:**
 - Networking
 - Traffic Analysis for Cybersecurity

Whatcom Community College

Corrinne Sande

- **Cybersecurity Program Development workshop**
- **Train:** 100 faculty
- **Audience:** Colleges that want to start a cybersecurity program or enhance an existing program with cybersecurity related content

Cybersecurity Management Council

- Engage 100 institutions
 - Enable developing cybersecurity management degree programs.
- **Cybersecurity Management Development program**
 - Program toolkit
 - Course toolkit
 - Pedagogical resources
 - Online resources on certifications and virtual labs
 - Program/course mapping to NSA/DHS CAE-CD
- Faculty mentorship
 - 3 Faculty from 100 institutions each
- Directory of CSM Education
 - Programs, faculty, curriculum



Cybersecurity Field Trip @ UCCS

100 Graduate/Doctoral Students



'Live Case Study' Cybersecurity Field trip

- **Aim:** Experience the cybersecurity practice from a government, defense or private sector vantage point.
 - Explore cybersecurity practices
 - Career opportunities
 - Visits to agencies
 - Interaction with Subject Matter Experts
- **Duration:**
 - Four-day field trip
 - Twice a year
 - 25 students per trip
- **Cybersecurity-focused ecosystems:**
 - Washington D.C./Northern Virginia
 - Colorado Springs

Cybersecurity Placement Program

@UCCS

Virtual Cybersecurity Teachers Program

- **Audience:** Graduate/Doctoral students
- **Aim:** Train cybersecurity teachers for secondary education
 - Add availability of qualified faculty in community colleges
- **Target:**
 - Placement at Community Colleges & High Schools
 - 50 Students

Recruiting Transitioning Military and Civil Service Personnel

Train 267 personnel

Transitioning Military and Civil Service Personnel



Cybersecurity Management Council

Provide faculty mentorship and career guidance



“MOS Pathways” (Whatcom Community College)

Award credits based on military occupation, not based on specific training an individual received in the military



Members with qualifications for adjunct or tenured positions

Pedagogical Training



Members requiring degrees or other credentials

Pedagogical training

Educational Component – Graduate Certificates

PROGRAM SUMMARY

**Univ. of Colorado
Colorado Springs**

**Network System Security
Cybersecurity Management**
240 Faculty | 70 Students

**Univ. of Colorado
Colorado Springs**

Cybersecurity Pedagogy
100 Professors of Practice

**Univ. of Colorado
Colorado Springs**

**'Live Case Study' Field Trip
Virtual Cybersec. Teachers**
150 Students

Robert Morris University

Cybersecurity Pedagogy
100 Professors-of-Practice

Florida Intl. Univ.

Digital Forensics
300 Faculty | 30 Students

Univ. of Cincinnati

Data Driven Cybersecurity
100 Faculty | 30 Students

Univ. of New Mexico

Information Assurance
80 Faculty | 20 Students

Univ. of Albany SUNY

Digital Forensics
105 Faculty | 30 Students

Moraine Valley CC

Industry Certifications
200 Faculty

Whatcom CC

**Cybersecurity Program
Development**
100 Faculty

**National CyberWatch
Center**

Cybersecurity Foundations
50 Faculty

CSM Council

**Cybersecurity Management
Program Development**
100 Institutions (300 Faculty)



Thank you for your time!

Contact: gtejay@uccs.edu