Please Note...

This webinar and the engagement tools will be recorded.

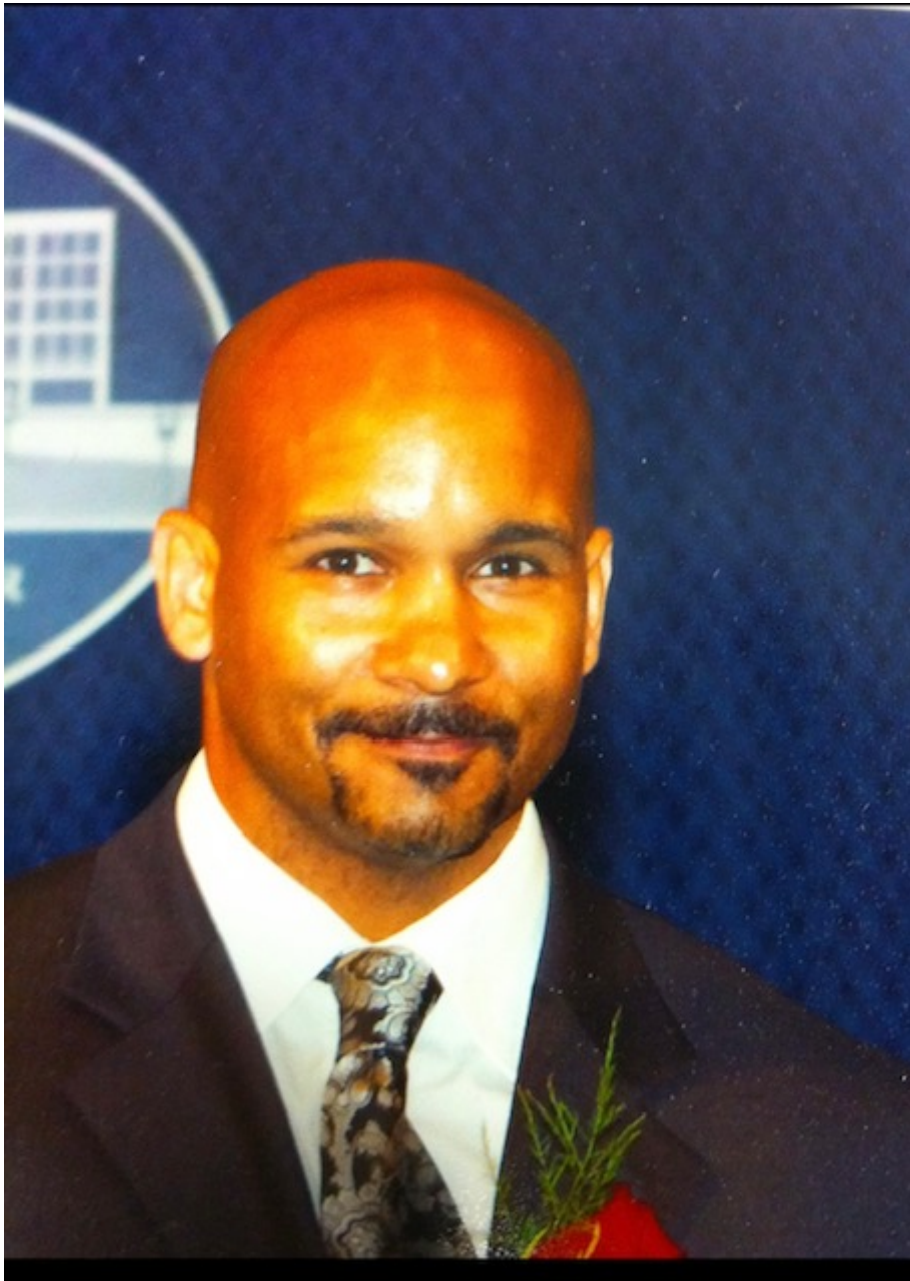An archive will be available on the event website.

FEDERAL CYBERSECURITY WORKFORCE WEBINAR

Welcome and Overview

Marian Merritt
Deputy Director and Lead for Industry Engagement
National Initiative for Cybersecurity Education (NICE)

Federal Cybersecurity Workforce Webinar: Introducing Cybersecurity Apprenticeships in Federal Environments

Douglass McPherson
Supervisory Apprenticeship and
Training Representative
Office of Apprenticeship

What is Registered Apprenticeship

A Proven Workforce Solution

Registered Apprenticeship is an **industry-driven**, **high-quality** career **pathway** where employers can **develop** and prepare their **future workforce**, and individuals can obtain **paid work** experience, **classroom instruction**, and a portable, **nationally-recognized credential**.

Five Components of Apprenticeship

- Apprenticeships are jobs
- On-the-job learning in a work setting
- Job-related classroom training
- Learning with the help of a mentor
- Industry-recognized credential

A Diverse Range of Industries

Healthcare

Cybersecurity

Information
Technology

Biotechnology

Transportation

Construction

Financial
Services

Advanced
Manufacturing

Hospitality

Engineering

Energy

Telecommunications

Successful Engagement with Major Employers to Grow Apprenticeship

Why Registered Apprenticeship?

- **Registered Apprenticeship is a proven training model**

- **Industry-validated occupations**

- **Modernized registration process**

- **Nationwide Technical Assistance**

Federal Apprenticeship Programs

- United Services Military Apprenticeship Program (USMAP)

- Center for Disease Control (CDC)

- Federal Bureau of Prisons

- Department of Interior

- Department of Justice

- Department of Treasury

- and the Department of Labor

Cyber/I.T. Occupations

- **Hardware Hacker**
- **Cyber Security Support Technician**
- **Database Administrators**
- **I.T. Systems Administrator**
- **Information Security Analysts**
- **Computer Network Architects**
- **Computer and Information Systems Managers**

Thank You for Joining Us Today

Ready to get involved? The Office of Apprenticeship is here to help!

Visit www.apprenticeship.gov/national-apprenticeship-week for all things NAW 2021

Have questions ? Email us at NAW@dol.gov

Douglass McPherson,
Supervisory Apprenticeship
and Training Representative
Office of Apprenticeship
(202) 693-3783

Q & A

Cybersecurity Apprenticeships- a map for federal agencies

Dr. Costis Toregas

GWU Cybersecurity and Privacy Research Institute

October 26, 2021

Defining apprenticeships

- Earn while you learn

- Mentor to pass on the wisdom

- Three learning pathways with n hours expectation
  - Academic
  - Company
  - OJT

NSF-funded project to explore terrain

11. NCC Working Group Membership

- Academic:
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Federal Cybersecurity Apprenticeship Resource Guide

Co-developed by the National CyberWatch Center™ Working Group on Federal Cybersecurity Apprenticeships

January 2021

NATIONAL CYBERWATCH CENTER

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What we learned

- It's all about the employer- make sure both hiring and technical side managers understand the value proposition of apprenticeships

- Many organizations and individuals exist to help start the journey! Engage and be open to offers of assistance.

- Benefits are many- understand them and convey them
  - Recruiting and developing a diverse and highly-skilled workforce including women, minorities, and veterans
  - Improving productivity, profitability, and the bottom line
  - Increasing staff loyalty and retention of workers, during and following the apprenticeship
  - Creating flexible training options that ensure workers develop the right skills
  - Minimizing liability costs through appropriate training of workers

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Ticking clock for you

- Retirement wave of technicians and technical managers
- Industry salary gap and timing issues to hiring
- Presidential Orders focusing on cyber skills

Different onboarding models

- Set up internal program
- Intermediaries
- Hybrid approach

MISSION: ISGCyber provides cybersecurity services and develops IT and cyber professionals **using apprenticeship as a development tool.**

CONCEPT: The ISG Cybersecurity Apprenticeship Program (ICAP) integrates foundational education, virtual simulation training, global certifications and supervised work experience to produce educated, trained, certified and experienced cyber professionals. ICAP primarily supports transitioning military Veterans but is configurable to meet any defined population group

COMPANY: Founded in 1998 (custom software); 2012 transition to cybersecurity; 2013 federally registered cybersecurity apprenticeship; Veteran focused apprenticeship since 2016

PATHWAY: Selection; Pre-Apprenticeship; Apprenticeship; Career

CONTACT: https://isgcyber.com/ EMAIL: Tony.Marshall@ISGlink.com

NAICS: 423609, 611420, 611513, 541519 CAGE: #3C257

Suggestions for success

- Buy in from the top is vital

- Engage two vital elements:
  - HR/hiring managers
  - CIO/CISO

- Registered or not? Pros and cons

- Innovate through pilots
  - take small bytes
  - Win
  - Expand

Cyber Security
and Privacy
Research Institute

THE GEORGE WASHINGTON UNIVERSITY

Who can help?

- NIST/NICE community of practice
- DoL program support
- Academia, intermediaries and accreditation organizations

Stay in touch

costis.toregas@gmail.com

Q & A

SAN DIEGO'S CYBERSECURITY APPRENTICESHIP PROGRAM

Presented by: Lisa Easterly, CCOE President & CEO

Research by:

Cybersecurity in San Diego

BY THE NUMBERS

$3.5B

ANNUAL
ECONOMIC IMPACT

nearly 15% more than
in 2019

23.4K

TOTAL JOBS
IMPACTED

10% increase since 2019

874

CYBER FIRMS CALL
SAN DIEGO HOME

3 in 5 expect to increase
employment in next year

12.4K

TECH WORKERS
ENGAGED IN CYBER

7.5% more than in 2019

$106.4K

AVG SALARY FOR
TECH & CYBER
WORKERS

nearly 12% above national avg

22.2K

CYBER-RELATED
DEGREE COMPLETIONS

across 118 local programs

NAVWAR is San Diego's Cyber Juggernaut

NAVWAR'S ECONOMIC IMPACT

5.2K
FEDERAL EMPLOYEES IN SAN DIEGO
11K+ worldwide

$800M
IN WAGES AND BENEFITS
2020

3.7K
CYBER EMPLOYEES IN SAN DIEGO
1/3 of all Cyber workers

$1.6B
IN SD-SPECIFIC CONTRACTS
$530M for small businesses

SAN DIEGO'S MILITARY FOOTPRINT

Fleet Anti-Submarine Warfare
Marine Corps Recruit Depot
USCG Air Station
Naval Medical Center San Diego
Field Industrial Supply Center
Naval Submarine Base San Diego
Naval Base Coronado
Coronado
Naval Base San Diego
National City
Naval Amphibious Base Coronado
San Diego Bay
Naval Radio Station Imperial Beach
Imperial Beach
Naval Outlying Field Imperial Beach

Military Bases in the San Diego Region

Creation of the Purple Elephant Program

- Talent shortage and lack of diversity identified as #1 industry pain point in regional economic impact and workforce studies
- Inspired by 2018 NICE Conference apprenticeship theme
- Convened academia and industry roundtables to discuss gap
- As the largest cyber employer, NAVWAR developed cybersecurity student-employee/apprenticeship criteria
- CCOE shared the criteria with both government and industry partners to cultivate a region-wide apprenticeship program
- Fostered partnerships with community colleges and continuing education programs to identify student cohorts
- Facilitate employer info sessions, matchmaking and interviews

Yielding…5 college district partnerships and 30+ student-employees hired and offered full-time employment to date!

Benefits and Lessons Learned

- Increased talent diversity – homogeneity is the bad actor's best friend!
- Decreased turnover and training costs
- Customized work-based learning and skills development
- Upskilling of current workforce
- Team approach to mentorship
- Requires senior leadership, but…
- Creates a sustainable and responsive talent pipeline

Testimonial

"This is huge," Yesenia Ponce said. "When you go to school, you don't necessarily get any work experience. So to get this kind of an opportunity to work in a field you'd like to go into, and get a taste of what it's like, is amazing. And then there's a job waiting for you when you graduate with your bachelor's degree? That's just unbelievable."

STEM student Yesenia Ponce (Official US Navy photo by Aaron Lebsack)

Interested in Learning More?

For more information, please visit:

https://sdccoe.org/

Q & A

2021 Federal Cybersecurity Workforce Webinar Series

Tuesday, January 25, 2022, 1:30-3:00 p.m. ET

Impactful Diversity, Equity, Inclusion, and Accessibility Initiatives for the Federal Cybersecurity Workforce

Register here: https://go.usa.gov/xe3kZ

2022 Federal Cybersecurity Workforce Summit

SAVE THE DATE

Tuesday, April 26, 2022

Complete Evaluation Form

- https://www.surveymonkey.com/r/L6JFZZX