**NICE Working Group**

**Meeting Minutes**

**Date: April 24, 2019 Time: 3:30 PM ET**

**SharePoint:** [https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG](https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG/Pages/home.aspx)

# Introduction and Ground Rules

## Danielle Santos, NICE Program Manager, welcomed participants to the meeting. The NICE Working Group (NICEWG) is setup to provide a mechanism for collaboration between academia, government and industry, and to discuss strategies and actions to aid in workforce development.

## During this meeting the Adobe Connect chat box feature should be utilized to provide feedback and ask questions.

## Danielle urged all participants to collaborate and share information. The NICE Working Group [mailing list](mailto:nicewg@nist.gov) is a convenient way to disseminate information. The [SharePoint site](https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG/Competitions/SitePages/Home.aspx) stores meeting agendas and minutes, documents and member information.

# NICE Program Office Updates

## Rodney Petersen, NICE Director, provided the Program Office update.

### Rodney set forth the priorities for 2019.

#### The working group focus throughout the year should be on cybersecurity careers. We want to make cybersecurity more discoverable. [National Cybersecurity Career Awareness W](https://www.nist.gov/itl/applied-cybersecurity/nice/events/national-cybersecurity-career-awareness-week)eek in November is an annual opportunity to promote cybersecurity careers.

#### There is a lot of attention on the NICE Cybersecurity Workforce Framework which exists as a standard to talk about cybersecurity work. Rodney has noted people are not aware of the framework in all sectors. There is interest in how it is being applied.

#### Additional resources will be added to the [NICE Framework](https://www.nist.gov/itl/applied-cybersecurity/nice/resources/nice-cybersecurity-workforce-framework) portion of the NICE website. Tools as well as processes to collect ongoing feedback will be added.

#### NIST SP 800-16 is focused on federal cybersecurity role-based training. The publication sets the idea of creating a continuum of learning, specifically training, based on someone’s role. It has information about competencies across foundational areas.

#### Increasing representation of the underrepresented is another high priority. Outcomes of funding to [New America](https://www.newamerica.org/cybersecurity-initiative/reports/new-ways-bring-women-and-through-cybersecurity-careers/) have been produced. There are plans for increased participation in minority initiatives. Veterans are another focus. As a community, we must be sure we have the resources.

#### The last objective in the [NICE Strategic Plan](https://www.nist.gov/itl/applied-cybersecurity/nice/about/strategic-plan) is to work to increase international engagement. We will work with the Department of State and others to do more outreach and capacity building.

#### Ongoing priorities include working group activities, conferences and webinars. NICE also supports the [FISSEA](https://www.nist.gov/news-events/news/2019/04/fissea-conference-registration-open) conference which is scheduled for June 27-28.

#### Ongoing communications for NICE include the website, e-newsletter and other channels. NICE personnel continue to attend events throughout the year. Working group members may contact the program office at any time to discuss participation in demos and speaking engagements.

# Standing Items

## **Report Roundup**

### Richard Price, Research Associate, Clayton Christensen Institute presented "Betting on Bootcamps." He presented his work on the potential of bootcamps to change how higher education works.

#### Clayton Christensen Institute focuses on career opportunities after high school. They work on technology workforce-aligned skill-based programs that are targeted at career changers.

#### Success is defined by placing people in jobs, which helps fill the pipeline with job candidates. Numbers of graduates have been increasing steadily since 2013.

#### Bootcamps are workforce aligned activities. They can last from 3-9 months but are typically closer to three months in length.

#### Bootcamp numbers may be larger than what numbers indicate due to rapid growth rate, etc.

#### Are bootcamps disruptive to higher education? Disruption occurs when companies reach out to non-consumers or those who are willing to pay less.

#### People look for simpler and cheaper ways to achieve the goal of getting necessary education or training. Bootcamps are non-accredited and are cheaper than higher learning institutions. The tradeoff is a lack of federal aid which may make them challenging to afford.

#### Bootcamps compete with colleges and universities by placing program graduates in jobs. Most colleges ignore the bootcamp space.

#### The final part of the paper focuses on how bootcamps may expand in the future. Future impact will focus on an influx of federal money and innovation.

#### There are issues for setting up bootcamps in certain states. Bootcamps seek to impact other sectors besides technology. They may also move into lifelong learning in multiple fields. Federal funds will likely happen regardless of how the money is dispersed.

#### Are universities getting into doing bootcamps? Bootcamps can partner with employers directly, and more recently are partnering with universities. The long-term ROI remains to be seen. The short-term outlook is very promising.

### See the presentation in [SharePoint](https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG/Pages/home.aspx?RootFolder=%2Fsites%2FNICEProgram%2FNICEWG%2FMeeting%20Minutes%2FApril%202019&FolderCTID=0x01200048BA099E0F72A946AAAC8C4F2372CB5B&View=%7B3116E59C-AD77-4527-AEDE-1CB20C755117%7D) and find out more [here](https://www.christenseninstitute.org/publications/bootcamps/).

## **Strategy Stories**

### Larry Jones, President, ABET, presented "ABET Accreditation and Cybersecurity Accreditation."

Objective 2.1: Improve education programs, co-curricular experiences, and training and certifications.

Strategic Action 5.4: *The academic sector, in collaboration with the National Initiative for Cybersecurity Education, should establish cybersecurity as a fundamental requirement across all engineering disciplines. \**

\* Cited from the May 30, 2018, Report to the President on, “Enhancing the Resilience of the Internet and Communications Ecosystem Against Botnets and Other Automated, Distributed Threats”

#### ABET is the accreditation authority for college and university programs in applied and natural science, computing, engineering and engineering technology. Larry will be speaking on accreditations related to cybersecurity.

#### ABET as an organization has existed for 90 years. Accreditation demonstrates practitioners in a given field are qualified to work in the profession. ABET work is done by volunteers along with a permanent staff of 35-40 people. The goal is to establish confidence.

#### Accreditation is done through an 18-month process where programs do a self-appraisal and submit the results to ABET for evaluation. Submissions cover multiple categories and include outcomes for students.

#### The Computing Accreditation Commission accredits bachelor's degree programs in computer science, information systems, information technology, and cybersecurity. Accreditation for 2-year cybersecurity programs is in the works.

#### The Engineering Accreditation Commission accredits bachelor and master's level programs. Criteria for cybersecurity engineering exist but no programs are accredited yet. Security as a design consideration must be included in engineering.

#### All programs being accredited must demonstrate they are including secure computing practices.

#### This year's ABET Symposium theme was cybersecurity. Two panels with speakers from industry, government, and research participated in discussing cybersecurity threats and responses. They emphasized that cybersecurity is not confined to computing alone.

#### There is an action cited in the May 30, 2018 Report to the President that cybersecurity will be included in technical education. Read the report [here](https://www.commerce.gov/sites/default/files/media/files/2018/eo_13800_botnet_report_-_finalv2.pdf).

### See the presentation in [SharePoint](https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG/Pages/home.aspx?RootFolder=%2Fsites%2FNICEProgram%2FNICEWG%2FMeeting%20Minutes%2FApril%202019&FolderCTID=0x01200048BA099E0F72A946AAAC8C4F2372CB5B&View=%7B3116E59C-AD77-4527-AEDE-1CB20C755117%7D) and find out more [here](https://www.abet.org/).

# Subgroup Updates

## **Apprenticeship –**

### Girish Seshagiri, Co-chair, provided the update.

#### Girish expressed optimism about the work of the subgroup this year. The membership was surveyed for projects to initiate.

#### The goal is to facilitate creating apprenticeship at scale.

#### Three new topics arose from a survey:

##### Return on Investment (ROI) for apprenticeships. During the April meeting, Michelle Wein presented on ROI for apprenticeships, and an ROI apprenticeship calculator.

##### Comparative analysis of existing earn-and-learn models; and,

##### Drawing up standard templates to be used by anyone who wants to implement an apprenticeship.

### The next Apprenticeship subgroup meeting is April 26, 2019 at 11:00 a.m., ET. Visit the Apprenticeship subgroup website [here](https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG/Apprenticeship/SitePages/Home.aspx).

## **Collegiate –**

### Denise Kinsey, Co-chair, provided the update.

#### The subgroup has three different projects:

##### Tools, Technologies and Skill Sets;

##### Value of Higher Education; and,

##### Career Pathways –The project group is examining starting points and various pathways for moving toward cybersecurity careers.

##### Please let [Denise](mailto:denisekinseytx@gmail.com) or [Stephen](mailto:Stephen.Miller@enmu.edu) know if you are interested in working on one of the collegiate project teams.

### The next Collegiate subgroup meeting is May 14th at 2:00 p.m., ET. Visit the Collegiate subgroup website [here](https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG/Collegiate/SitePages/Home.aspx).

## **Competitions –**

### Amelia Phillips, Co-chair, provided the update.

#### Amelia thanked retiring co-chair Laurin Buchanan for her work during the past two years. She welcomed Brad Wolfenden as the new co-chair.

#### The subgroup had Dr. Claire La Fleur, Army Research Lab, at the last meeting. Dr. La Fleur evaluated team behavior in competition situations during CCDC competitions.

#### She concluded that teams who established prior game plans did better at the competitions. She also found women on competition teams tended to be in leadership and documentation positions as opposed to doing the actual work. She is examining if this a trend.

#### Dan Manson is continuing to do [podcasts](https://www.youtube.com/cyberfed) on various topics in competitions. Suggestions on future topics or individuals to feature are welcome.

#### The Competition Outreach guide is in progress; as well as guides on how to build and run a competition and a competitor's guide.

### The next Competitions subgroup meeting is May 21st at 3:00 p.m., ET. Visit the Competitions subgroup site [here](https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG/Competitions/SitePages/Home.aspx).

## **K12 –**

### The next K12 subgroup meeting is May 8th at 3:30 p.m., ET.

### Visit the K12 subgroup website [here](https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG/K12/SitePages/Home.aspx).

## **Training and Certifications –**

### Bill Newhouse, Deputy Director NICE, provided the update.

#### The May 1st subgroup meeting will be postponed until May 6th.

#### The Cyber Ranges project team is putting together a document on cyber ranges for those with less experience. Joe Adams leads this project. Let us know if interested to join this project.

#### Possible new projects include:

##### Sketch out what professional certification will look like over the next several years.

##### Develop a listing of certifications with requirements, etc. including prior requirements, domains, and mapping to NICE framework work roles.

#### New members are welcome.

### Visit the Training and Certifications website [here](https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG/TrainingCertifications/SitePages/Home.aspx).

## **Workforce Management –**

### Susie Cone, Co-chair provided the update.

#### The subgroup met on April 16th. They are working on mapping business functions from the [guidebook](https://www.nist.gov/itl/applied-cybersecurity/nice/workforce-management-guidebook) to NICE Framework roles. Working sessions are being planned.

#### Additional projects include developing metrics and measures on cyber adoption in the workforce and sector specific versions of the guidebook. Sectors being considered include the healthcare and financial sectors, as well as others.

### The next Workforce Management subgroup meeting is May 16th at 1:00 p.m., ET. Visit the Workforce Management website [here](https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG/WorkforceManagement/SitePages/Home.aspx).

# Project Progress Reports

## **National Cybersecurity Career Awareness Week**

### Danielle Santos, Program Manager NICE, provided the update.

#### A new NCCAW banner is live on the website as well as a flyer. The NCCAW registration portal is being constructed and should be live by the end of the week. Watch for an announcement when it goes live.

#### The NCCAW toolkit has been built with ideas and resources for people to be involved. The planning team is looking into creating resources in new categories for this year.

#### The next planning meeting is May 2nd. If you would like to help, please email [Danielle](mailto:danielle.santos@nist.gov).

### More information on NCCAW is available [here](https://www.nist.gov/itl/applied-cybersecurity/nice/events/national-cybersecurity-career-awareness-week).

## **NICE Annual Conference**

### Randy Pestana, Florida International University, provided the update.

#### The Conference this year is November 18-20 in Phoenix, AZ. The theme is "Reimaging the Future of the Cybersecurity Workforce: Adapting to a Changing Landscape."

#### The call for proposals is open until May 19th. Proposals will be evaluated following the closing date. There are four tracks in the conference.

##### Partnering for a Stronger Cybersecurity Community

##### Connecting Theory and Practice

##### The Impacts of Future Technologies on the Cybersecurity Workforce

##### Expanding Skill Development through Lifelong Learning

#### Email [info@ niceconference.org](mailto:info@%20niceconference.org) with questions. Find more information [here](https://niceconference.org/).

### The planning committee meets June 20th. Accepted speakers will be notified around July 4th.

## **NICE K12 Cybersecurity Education Conference**

### Felicia Rateliff, Program Manager, iKeepSafe provided the update.

#### The 2019 conference is December 9-10 in Orange County, CA.

#### The theme for this year's conference was recently finalized. This year is the fifth anniversary for the conference.

#### The planning committee has met once. The next meeting is April 25th.

#### The call for proposals is open until June 15th.

#### There are five different tracks for the conference this year.

##### Increase Cybersecurity Career Awareness

##### Infuse Cybersecurity Across the Educational Portfolio

##### Integrate Innovative Cybersecurity Educational Approaches

##### Design Cybersecurity Academic and Career Pathways

##### Promote Cyber Awareness

#### Information on the call for proposals can be found [here](https://www.k12cybersecurityconference.org/call-for-proposals).

#### This year the Whova app will be available for people to use at the conference. It will provide access to agendas, conference events, and other information. The conference will have digital badges this year that can be displayed on LinkedIn, etc. following the conference.

#### Sponsors and exhibitors are needed. Accepted proposals will be notified no later than August 1st.

### More information on the K12 Conference can be found [here](https://www.k12cybersecurityconference.org/).

## **NICE Challenge Project**

### Alexander Hillock, NICE Challenge Development Team, provided the update.

#### The web portal has been updated. New notifications have been added for participants and curators.

#### Three new challenges are coming in the protect and defend category. One new challenge includes random attacks to the engine where participants must be able to thwart the attacks in real time.

### More information on the NICE Challenge Project can be found [here](https://nice-challenge.com/).

# New Business

## **Cybersecurity Talent Initiative**

### Malik Walker and Margot Conrad, Federal Workforce Programs Partnership for Public Service, presented on the Cybersecurity Talent Initiative.

#### The initiative is operated by the Partnership for Public Service, a public-private partnership with founding partners MasterCard, Microsoft and workday. It focuses on building the next generation of cybersecurity leaders for the U.S. Federal agencies participating in the partnership include the CIA, DoD, Energy, HHS, VA and others.

#### The program will also try to address the rising level of student loan debt carried by graduates. It provides an opportunity for students to spend two years in the federal government and receive leadership training at the same time. At the end of that period, students will compete for positions with sponsor companies. They can potentially receive up to $75,000 in student loan assistance.

#### The initiative represents corporate partner commitment to assisting the country with developing urgently needed cybersecurity workforce.

#### To be eligible, candidates must have student loan debt, and strong academic performance in IT, and an anticipated graduation date in 2020. They must also be U.S. citizens.

#### The initiative is recruiting on college campuses, with outreach to over 100 colleges and universities, CAE and SFS programs. Anyone meeting the eligibility requirements can apply. The partnership is looking for highly qualified talent with a focus in cybersecurity.

#### Applications close October 18, 2019. Acceptance notices will be sent in spring 2020 and candidates will start work in summer/fall 2020. Most positions so far are in Washington, DC, a few are outside DC.

#### What form does the tuition assistance take? Assistance is given in two parts: one installment following the first anniversary, and then again at the completion of the second year. The amount can be up to $75,000 over the two-year period.

#### Offers are made in early spring to allow time for processing necessary government clearances. Most agencies estimate six months for a clearance.

#### Tuition assistance begins when candidates transition into the private sector. Students who demonstrate a high level of ability are more likely to get jobs and then receive assistance. There is no guarantee of assistance or a job.

#### Is NASA a program partner? NASA is not now included but discussions are ongoing with them. The list of partners is growing. The initiative would like to add additional agencies and partners. Having student loans is a requirement to apply.

#### The type of clearance required is up to the particular position and agency.

### See the presentation in [SharePoint](https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG/Pages/home.aspx?RootFolder=%2Fsites%2FNICEProgram%2FNICEWG%2FMeeting%20Minutes%2FApril%202019&FolderCTID=0x01200048BA099E0F72A946AAAC8C4F2372CB5B&View=%7B3116E59C-AD77-4527-AEDE-1CB20C755117%7D) and find out more [here](https://www.cybertalentinitiative.org/). Reach out to [Malik](mailto:MWalker@ourpublicservice.org) and [Margot](mailto:mconrad@ourpublicservice.org) with questions.

# Summary of Action Items

Minutes and presentations from today will be provided to the working group.

# Next Meeting Reminder –

# The next NICE Working Group meeting is scheduled for Wednesday, May 22, 2019.