**Meeting Minutes**

**Date: March 25, 2020 Time: 3:30 PM ET**

**SharePoint Page:** <https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG>

1. **Introduction and Ground Rules**
2. Danielle Santos, NICE Program Manager, welcomed participants to the meeting. The NICE Working Group (NICEWG) is set up to provide a mechanism for collaboration among academia, government, and industry as well as to discuss strategies and actions to aid in workforce development.
3. Danielle encouraged participants to use the Adobe Connect chat box feature to provide feedback and ask questions.
4. 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/Pages/home.aspx) stores meeting agendas and minutes, documents, and member information.
5. Danielle noted that NICE Working Group mailing lists and meeting teleconferences are not intended for promotional announcements, advertising, product-related press releases, or other commercial use.
6. **Opening Remarks**
7. Industry Co-Chair, Jon Brickey, Mastercard, provided opening remarks. Given the current environment, Jon is working with the CISO on crisis action planning for his company. A few things they are seeing include cyber criminals trying to take advantage of the current environment. There are increased operational attacks. COVID-19 distracts from other potential tasks. Many are dealing with work-from-home issues, VPNs, and efficiency problems such as space and distractions. People are asking for collaboration tools, more screens, and more technical equipment. There is a concern state actors and proxies will take advantage of the situation. On the flip side, there is some honor among thieves and coming together with others regarding health and safety issues.
8. Government Co-Chair, Rodney Petersen, Director of NICE, provided additional remarks. Rodney noted that while last week felt somewhat normal, this week turns to implications on what we all do with workforce training and planning. The impact this will have on our learning system, what we do, and what we plan to do in the future provides opportunities to learn. Rodney also sparked discussion in the chat about how the COVID-19 crisis will help us learn about or change how we conduct cybersecurity education and training, what the impact will be on the cybersecurity workforce, and how lessons learned can be leveraged in the future to help close the cybersecurity skills gap. NICEWG members shared a variety of feedback, including notes that there are greater cybersecurity risks with remote workers, but there is also greater opportunity with online training options and greater opportunity to focus on the way roles are performed and how people utilize soft skills (like communication) to get work done. Students have, generally, seemed to “not be missing a beat” transitioning to full-time online classes and even exploring virtual internships.
9. **Standing Items**
10. **Report Roundup – learning from good ideas**Presenter: Jonathan Brandt, Information Security Professional Practices Lead, ISACA, presented on “SSACA State of Cybersecurity.”

* ISACA is involved in credentialing, guiding training, thought leadership, and more. ISACA produces this report each year. They now have about 5 years’ worth of data. The annual report is released in two parts. This is an overview of part one.
* Part one reaffirms findings from prior years. Observations show some expectation for increased budgets. There is also slight progress in diversity programs.
* The report reaffirms findings from previous years. Regarding staffing, 62% report teams are understaffed. 57% report unfulfilled positions. Mitigation strategies include re-training current staff and using contractors and/or consultants.
* The top three qualifications for well-qualified candidates are hands-on experience, hands-on training, and credentials. What’s missing? Soft skills trump all the rest. What is the specific shortage? Jon’s observation is the divide between entry-level candidates and ‘unicorns’ organizations are looking to hire. Reporting shows we’re running short on expectations.
* How can organizations take action? We know the shortage is not going away and will increase. Invest in existing employees, offer a pipeline to staff, push apprenticeships, expand government programs, and most importantly waive university degree requirements.
* Jon encourages all members to download and read the full report. Look for part two next quarter.
* See presentation and find out more [here](https://www.isaca.org/go/state-of-cybersecurity-2020?cid=pr_2003374&Appeal=pr).

## **Strategy Stories – new developments that align to NICE Strategy** Presenter: Dr. Raquel Hill, Chair, Computer and Information Sciences Department, Spelman College, presented on the ”Spelman College and Dell Joint Cybersecurity Exercises.” This presentation aligns to [NICE Strategic Plan](https://www.nist.gov/itl/applied-cybersecurity/nice/about/strategic-plan) Goal 2: Nurture a Diverse Learning Community.

* Spelman is a historically black liberal arts college for women located in Atlanta, Georgia.
* Dr. Hill believes the Spelman environment is perfectly positioned to help address the lack of students trained in cybersecurity. Spellman is recognized by the NSF as the leading producer of black women who go on to earn doctorates in sciences.
* Dr. Hill joined Spelman because of its value in education and its high retention rate.
* Developing a cybersecurity initiative will have a lasting impact on students and will reduce the shortage of cybersecurity professionals.
* The approach aligns with the NICE Strategic Plan as it relates to inclusion. The best way to do this is through collaboration. Not just academic but also reaching out to industry collaborators to shore up the curriculum and share resources to nurture the diverse community.
* At Spelman, all students are required to take computer literacy, which will include cybersecurity. They are using the NICE Framework to align curriculum and integrating hands-on courses.
* They are looking to do all hands-on courses in a virtual space. Resources are limited, but they do not want to do this in a physical space.
* They currently have a collaboration with Dell Secureworks.
* Mr. Bryant, Senior Management Advisory Group, Dell Secureworks will work to provide student mentoring, exposure to real-world use cases, and jointly developed applied learning environments. Students will be able to apply theory learned from the classroom for the hands-on experience they need.
* See presentation for more information.

## **Metric Moment – what gets measured gets done** Presenter: Randi Parker, CompTia, presented “CyberSeek Metrics.”

* CyberSeek is in process of adding additional data and implementing APIs.
* They are considering how to incorporate the NICE Framework and talking to various training providers on how to integrate information.
* They are expanding capacity to include Australia.
* Key metrics include overall traffic increase of 30%.
* Visits to the Career Pathways increased 38%.
* Additional data will be available at the end of March, 2020.
* Rodney asked if the community should re-look at NICE KSAs. Randi believes so and appreciates any comments.
* Find out more [here](https://www.cyberseek.org/).

1. **Subgroup Updates**

## **Apprenticeship**

## Tony Bryan, Executive Director, CyberUp, Co-chair, provided the update.

* Tony is a new co-chair and has been involved for just over a week. He is excited about the year ahead. There have been great efforts from former co-chairs. Looking ahead, he is excited to learn more about recent announcements from the Department of Labor.
* The next subgroup meeting is scheduled for April 24th at 11:00am ET.
* Visit the Apprenticeship subgroup website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/apprenticeship-sub-working-group).

## **Collegiate – no report this month.**

* The next Collegiate subgroup meeting is scheduled for April 14th at 2:00pm ET.
* Visit the Collegiate subgroup website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/collegiate-sub-working-group).

## **Competitions**

### Brad Wolfenden, EmberSec, Co-chair, provided the update.

* The subgroup hosted two guest speakers during the last meeting. Dr. Blaine Hoffman, CCDC Data and Analysis Center, spoke about “Cybersecurity Events and Assessing Performance.”
* The analysis focuses on building teams, stress metrics, automated data collection, and how data is labeled.
* The second speaker was Jessica Gulick, Katzcy, who spoke about [Wicked6 2020](https://wicked6.com/) and the RSA cyber game panel.
* The [podcast](https://www.youtube.com/cyberfed) project continues to add pertinent interviews with those involved in competitions.
* Rodney asked if the group discussed cancelations of face-to-face competitions. Dr. Philips, co-chair, who runs PRCCDC, was scrambling to move the competition online. This highlights the need to make competitions accessible in person or remotely. The subgroup can explore this path to open more opportunities.
* The next Competitions subgroup meeting is scheduled for April 21st at 3:00pm ET.
* Visit the Competitions subgroup website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/competitions-sub-working-group).

## **K12**

### Laurin Buchanan, Secure Decisions, Co-chair, provided the update.

* Laurin thanked David Hernandez, outgoing co-chair for his contributions.
* During the last meeting participants reviewed final suggestions about NICE Strategic Plan. They hope to deliver a document with suggestions to the program office by the end of month.
* Participants reviewed events both national and local. Figuring out what plan B is will be ongoing part of discussion.
* [National Cybersecurity Career Awareness Week](https://www.nist.gov/itl/applied-cybersecurity/nice/events/national-cybersecurity-career-awareness-week) (NCCAW) was discussed. The event will be held November 9-13, 2020. The subgroup is looking to expand activity and make it continuous rather than just one week per year.
* The next K12 subgroup is scheduled for April 8th at 3:30pm ET.
* Visit the K12 subgroup website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/k12-sub-working-group).

## **Training and Certifications**

### John McCumber, (ISC)2; Co-chair, provided the update.

* Members spoke about project work on “Training Best Practices” and “Cyber Range.”
* Jim Boardman, Academy Training Engineer, Cybersecurity Academy, Palo Alto Networks, Co-chair, presented on cyber work roles for their cybersecurity academy. More speakers are planned for the next meeting.
* The next T&C subgroup is scheduled to meet on April 1st at 2:30pm ET.
* Visit the Training and Certifications subgroup website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/training-and-certifications-sub-working-group).

## **Workforce Management**

### Karen Jensen, Saaby Consulting, Co-chair, provided the update.

* Members of the subgroup are working on guidance for Human Resource professionals. There is lots of feedback on concerns, ideas, and suggestions.
* Input and discussion that exist in cybersecurity positions can be broken down into three categories: bias, job descriptions, and lack of standardization in cybersecurity "languages." The needle has moved for women but there is still low representation. Gender, age, and diversity face bias.
* Members talked about job descriptions, some of which are ambitious. There is conflicting information and a lack of knowledge on how to put together a package that gives the workforce what they need and provides the candidate the pathway. There is also talk of standardizing the language between industry, government, and academia.
* The subgroup is now working on ideas for creating something functional for HR professionals and on gathering information on how to build job descriptions and how to talk to candidates. The target completion date is November or possibly sooner.
* The next Workforce Management subgroup meeting is April 16th at 1:00pm ET.
* Visit the Workforce Management subgroup website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/workforce-management-sub-working-group).

1. **Project Progress Reports**

## **NICE Annual Conference**

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

* Save the date for the 11th Annual NICE Conference taking place November 16-18, 2020 at the Hilton, Atlanta, Georgia.
* The [call for proposals](https://niceconference.org/proposals) is now open. The committee is looking forward to a diverse set of proposals on success cases and best practices.
* The conference theme for this year is: New Decade, New Solutions: Meaningful Actions for a Cybersecurity Workforce.
* This year’s featured tracks are:
  + Career Discovery
    - How do we portray the variety of cybersecurity roles, promote multiple cybersecurity career pathways, and increase the supply of qualified, diverse talent into the cybersecurity workforce?
  + The Talent Lifecycle
    - How do we reengineer the human resources and talent acquisition ecosystem to promote competency-based hiring, develop innovative career pathways, and facilitate the mobility of workers?
  + The Learning Ecosystem
    - How do we leverage diverse learning environments, solutions, and assessments to equip people with the capabilities to contribute successfully to the cybersecurity workforce?
  + Effective Leadership
    - How do current and future leaders remain effective, enable their team to thrive, and keep up their own competencies in the face of uncertainty, while developing a diverse workforce to meet the evolving cyber-threat landscape?
* Feel free to email questions directly to [info@niceconference.org](mailto:info@niceconference.org)
* Find out more [here](https://niceconference.org/).

## **NICE K12 Cybersecurity Education Conference**

### Amber Lindsay, President & CEO, iKeepSafe provided the update.

* The conference is scheduled for December 7-8, 2020 in St. Louis, MO. The venue is now secured at the Marriot St. Louis Grand.
* Hotel reservations can be made online. Pre-conference workshops will be held on the Saturday and Sunday prior to the event.
* Call for proposals are opening April 1st.
* The theme for the 2020 conference is “Expanding the Gateway to the Workforce of the Future.” The conference will have five different tracks.
* They are currently gathering sponsors and exhibitors as well as building support. There is an early rate for exhibitors.
* Different sponsorship packets are available online.
* Please feel free to join the [mailing list](mailto:Conference@ikeepsafe.org).
* See presentation and find out more [here](https://www.k12cybersecurityconference.org/).

## **CAE Community**

### Anastacia Webster, California State University, San Bernardino, provided the update.

* The CAE Symposium will take place following the NICE Conference.
* The call for Committee Chairs will be sent April 1st.
* The call for Proposals will be open from June 1st through August.
* They anticipate opening registration for the Virtual Career Fairs next month on April 15th. All CAE Institutions can register to attend.
* Comments or questions can be directed to [Anastacia Webster](mailto:anastacia.webster@csusb.edu).
* Find out more [here](https://www.caecommunity.org/).

## **NICE Challenge Project**

### James D. Ashley III, Lead Engineer/Project Manager, CSUSB, provided the update.

* This project develops real-world cybersecurity challenges within virtualized business environments that bring students the workforce experience before the workforce. The goal is to provide the most realistic experiences to students, at-scale year-round, while also generating useful assessment data about their knowledge, skills, and abilities for educators.
* The project team has been in the process of moving its recently planned in-person events to virtual ones.
* The NICE Challenge project works wherever one has a computer and internet connection.
* Content updates continue for “Operate and Maintain” challenges. They are also working with Whatcom Community College to produce work role assessment challenges to assess a personal ability to perform tasks within a single work role.
* They are rolling out new curator manager experiences as well as adding labeled tags to content to help curators.
* Find out more [here](https://nice-challenge.com/).

1. **Featured Topic**

## Cara Tang, Ph.D., Faculty & Department Chair, Computer Information Systems, Portland Community College, presented on “Cyber2yr2020: curriculum guidance for associate degree programs in cybersecurity.”

* The project developed out of the Association for Computing Machinery (ACM). ACM is the largest organization for computing professionals, which also produces curriculum guidelines for cybersecurity.
* The CSE2017 project focused on curriculum guidelines for 4-year colleges. Cyber2yr2020 focused on guideline for 2-year programs.
* The CAE KUs as well as the NICE Framework were referenced for input. Additionally, college educators with expertise in cybersecurity as well as people from industry and government were consulted in creating the curriculum.
* The guidelines are organized into eight different domains. Additionally, this includes cross-cutting concepts. There is a big focus on student achievement. They captured the knowledge skills they want students to achieve.
* There are a set of 58 competencies. Blooms taxonomy was referenced.
* The Cyber2yr2020 Domains include: Data Security Competencies, Software Security, Component Security, Connection Security, System Security, Human Security, Organizational Security, and Societal Security.
* Each domain has a card summarizing how it’s defined, broken down, etc. The domains are broken down into essential competencies, supplemental competencies, and knowledge units.
* They are currently collecting program examples with these guidelines. Program examples show how the competencies appear from a set of courses from a real school. There are three community colleges that have mapped the curriculum (Ivy Tech Community College, Lord Fairfax Community College, Bluegrass Community and Technical College). These colleges were part of the task committee.
* A spreadsheet is provided for mapping, and schools can fill in their own courses. The hope is that the spreadsheet makes the mapping much easier.
* A member inquired about obtaining a spreadsheet. Please visit: <http://ccecc.acm.org/correlations>
* There is a shift away from using terms like *knowledge areas* and *knowledge units* toward the use of *domain*. Research was conducted on the use of the terms and found that *domain* is a term that fits better.
* Do the CAEs that are mapped have alignment with the high schools in the communities? Cara was unsure about whether there has been any alignment made to date.
* What is next as a result of the project completion? They are now working on dissemination, helping people use the information, and collecting the program examples.
* Questions can be emailed to [Cara Tang](mailto:cara.tang@pcc.edu).
* See the presentation and find out more [here](http://ccecc.acm.org/files/publications/Cyber2yr2020.pdf).

1. **Summary of Action Items**

* Minutes will be developed and sent to working group members along with the presentations.

1. **Next Meeting Reminder**

* The next NICE Working Group meeting is scheduled for Wednesday, April 22, 2020.