**NICE Working Group**

**Meeting Minutes**

**Date: October 23, 2019 Time: 3:30 PM EST**

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

# 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/Pages/home.aspx) stores meeting agendas and minutes, documents and member information.

# Opening Remarks

# Industry Co-Chair, Jason Hite of Daoine Centric LLC, thanked NICE for the honor of serving as the Industry chair. He is looking forward to the NICE Conference next month as well as seeing everyone there.

# Government Co-Chair, Rodney Petersen, Director of NICE, took a moment to publicly thank Jason Hite for his great work as the Industry Co-Chair of the NICE Working Group.

## Reflecting on National Cybersecurity Awareness Month, Rodney pointed to the efforts of Department of Homeland Security’s ‘Stop. Think. Connect.’ campaign as well as the Stay Safe Online campaign run by the National Cyber Security Alliance with a focus on ‘Own It. Secure It. Protect It.’ These campaigns point to the need to influence user behavior, defend devices at a personal and staff level, build up the workforce, and protect PII and other data.

## NIST Publication 800-181, [National Initiative for Cybersecurity Education (NICE) Cybersecurity Workforce Framework](https://www.nist.gov/itl/applied-cybersecurity/nice/resources/nice-cybersecurity-workforce-framework), is a reference structure that describes the interdisciplinary nature of cybersecurity work. Within the NICE context this points to the need for training people who handle sensitive material. There is a great need for education for thousands to potentially millions of people; the learning continuum guides the work of NICE and the NICE Framework. The awareness month of October carries over into National Cybersecurity Career Awareness Week in November by exploring the various work roles of the NICE Framework.

# Standing Items

### **Report Roundup** **– learning from good ideas**

### Robert Lord, Cybersecurity Policy Fellow at New America, presented on ‘Do No Harm 2.0: Workforce’

* Robert started out as an AI expert at a hedge fund. He then changed course and started medical school from which he dropped out. All of his work brought him to the doorstep of cybersecurity and the ‘Do No Harm 2.0’ paper.
* Robert noted that the build-up of this paper took a village of effort and thanked all for their contributions. There is a tremendous amount of interest from Senator Mark Warren’s office in VA. The paper is extremely policy focused. One of the explicit goals of the paper is how to build the technology workforce of the future.
* There are enormous breaches in the Healthcare sector. This year alone was a banner year. We have yet to fully address basic cyber hygiene. Major data breaches across the spectrum are occurring at an unacceptable rate. For every three-hundred employees, a hospital can expect at least one data breach. The average hospital has more than that.
* The white paper, at its core, was built around three main pillars: culture, technology and workforce. There is a lot of information about how healthcare got to this state.
* The white paper hopes to explain to policy makers the proper understanding. Within the culture, they are looking at how to tangibly transform how we approach this problem.
* Within technology the focus is making sure systems are up to date and have a strong cybersecurity posture. For the workforce they are looking at low hanging solutions to tackle the problem. How to utilize small amounts of funding to have a high impact? What can be done quickly and now?
* Some additional recommendations within the workforce focus include: 1) Expansion of CyberCorps scholarships, 2) Cybersecurity apprenticeships, 3) Healthcare cybersecurity CAEs, 4) Industry-wide HC cybersecurity certification, 5) High-need retention incentives, and 6) Payroll tax incentives to prevent “brain drain”.

## See the presentation and find out more [here](https://www.newamerica.org/cybersecurity-initiative/reports/do-no-harm-20/chapter-5-workforce/).

## **Strategy Stories**

## Dr. Melissa Dark, Owner Dark Enterprises, Consultant, Cyber Center for Education and Innovation, presented on ‘CCEI Curriculum Framework’

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

* Melissa has worked in all levels of cybersecurity education for over 20 years.
* Melissa presented on a curriculum framework developed for high school students. The Cybersecurity Curriculum Framework was supported through an award to Dark enterprises Inc., by the Cyber Center for Education and Innovation as well as Northrop Grumman Corporation and the National Security Agency. Dark Enterprises is a non-profit dedicated to advancing cybersecurity education.
* Why a framework? In 2003 Melissa started going to CAE meetings and talking about the cybersecurity curriculum guideline. The guidelines were finally issued in 2018. Some places have standards at a state level and Melissa felt this would be an opportune time to work on a national stage particularly so that it would be in place for the next 10-15 years. Additionally, this would help teachers teaching this information. One repeatedly hears that teachers don’t know what to teach.
* She used a process called Backwards Design for AP CS Principles. A curriculum framework lays out what to teach but now how to teach.
* The framework has eight big ideas within it: Ethics, Establishing Trust, Ubiquitous Connectivity, Data Security, System Security, Adversarial Thinking, Risk and Implications. The big ideas are then broken down further into ‘Enduring Understanding’, then ‘Learning Objectives’ and finally, ‘Essential Knowledge’
* When students are finished with the framework, they should be able to answer the ‘Essential Questions’.
* Due to a time constraint the presentation could not be completed but members can view the presentation and find out more [here](https://cryptologicfoundation.org/visit/goal/cybersecurity-curriculum-framework-login.html).

## **Metric Moment**

## Toby Lin, Cofounder, Cyber Skyline, presented on ‘National Cyber League Metrics’

* Cyber Skyline operates the National Cyber League (NCL) Competitions.
* The participation rate is steadily growing. They started at 1,000 participants in 2013 and now have over 10,000 participants. A lot of schools are adopting NCL as part of their course work. All U.S. high school and college students can qualify.
* One thing Cyber Skyline has implemented is the Cyber Power rankings. Every year over 10,000 students from more than 300 colleges and universities across the U.S. participate in the NCL competitions. The rankings represent the ability of students from these schools to perform real-world cybersecurity tasks on the Cyber Skyline platform. Schools are ranked based on their top team performance, their top students’ individual performance, and the aggregate individual performance of their students.
* They produced a [heatmap](https://cyberskyline.com/data/map/students) of the cybersecurity students around the country.
* They found that half of the CAE schools are participating in NCL in some capacity.
* See the presentation and find out more [here](https://cyberskyline.com/data/map/students).

# Subgroup Updates

## **Apprenticeship -**

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

#### There was a lot of attendance during the last meeting in addition to three presentations on recent Apprenticeship DOL Awardees. The presentations were provided by the Urban Institute, ICF’s Cybersecurity Youth Apprenticeship Initiative (CYAI), and Perdue University.

#### The Urban Institute are committed to sign 1,800 apprenticeships in a 2-year period. Their current focus is on San Antonio and Austin, TX. The CYAI have a 5-year contract with a focus on getting 900 people registered in apprenticeships. Perdue University’s grant is for four years. Their goal is to enroll 5,000 apprenticeships. The program is already scaled. All of the presenters were encouraged to come back in a year to provide an update on their programs.

* They also provided project updates during the last meeting. There is the Comparative Analysis of Learn and Earn models project team. They are finalizing a survey that they hope to share at the NICE Conference. This project team may also team up with another project team working under the Training and Certifications Subgroup.
* The next subgroup meeting I s scheduled for November 22nd 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 -**

## Rodney Petersen, Director of NICE and Subgroup Liaison provided the update.

* There are currently two active projects.
* One project team is exploring the Value of Higher Education which is currently under attack as higher education costs are on the rise. In cybersecurity the emphasis is on skills-based training. The project team would like to start documenting the evidence that supports the value of higher education and do research on what data has shown historically.
* The second team’s work is on Cybersecurity Career Pathways. Collegiate education is not the only way. Apprenticeships as well as noncredit certificates and more are viable paths. A white paper was released from the advisory board on interoperability methods. The team will review the white paper recommendations and how it may apply to colleges and universities.
* The next Collegiate subgroup meeting is scheduled for November 12th 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, Co-Chair, provided the update.

* The last meeting involved a robust discussion about accessibility of competitions whether on campus or remote.
* The charter for the Competitions Guide for Competitors was completed. The project team is waiting for feedback on the guide. This project should wrap up early next year.
* The subgroup discussed the development of a white pager to counter negative reactions as to why people might not want to compete. They are looking at the positive values compared against the negative.
* Another discussion was focused on sharing information with HR managers to assist in deriving talent on a team when employees and sponsors attend competitions.
* The next Competitions subgroup is scheduled for November 19th 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 –**

## Davina Pruitt-Mentle, NICE Lead for Academic Engagement and liaison to the K12 subgroup, provided the update.

* Two presentations were provided during the last K12 subgroup meeting. One was an overview of the Vermont Pathways Program, which started from scratch with the help of the NICE K12 subgroup community. The second was provided by a University of Maryland student putting together a K12 project directory.
* The group also received updates on both the NCCAW as well as the K12 Conference.
* Project updates were provided as well. Flyers for school counselor talking points have been developed. Two projects are being resurrected: CTE Toolkit and an environmental scan and distribution of content in a google document folder.
* The next K12 subgroup is scheduled for November 13th 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, Co-Chair, provided the update.

* The group discussed the nature of training and certifications. They see a lot of overlap among some other groups and talked about where they coincide and intersect. Girish Seshagiri of the Apprenticeship subgroup joined the last T&C subgroup meeting and the two groups are looking at where they can support one another.
* The subgroup discussed creating a charter on the efficacy of learning.
* They discussed career paths: how to start, get trained, and educated. How to get be ready to be employed? What is a pathway?
* Additionally, they discussed other skills to be addressed in training.
* The next T&C subgroup is scheduled for November 6th at 2:00pm 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 –**

## Maurice Uenuma, Co-Chair, provided the update.

* The subgroup is in the process of job description reviews. They intend to leverage a consistent set of job descriptions that can be used across the board. The work is being done in collaboration with other subgroups as well as leveraging some of the OPM critical lists.
* The subgroup is transitioning co-chairs. Maurice noted it has been an honor to serve as co-chair, but Karen Jensen is now stepping in. Karen is the president of Saaby Consulting and brings twenty-plus years’ experience in software development and cybersecurity.
* The next Workforce Management subgroup is November 21st at 1:00pm DT.
* Visit the Workforce Management subgroup website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/workforce-management-sub-working-group).

# Project Progress Reports

## **National Cybersecurity Career Awareness Week** ([NCCAW](https://www.nist.gov/itl/applied-cybersecurity/nice/events/national-cybersecurity-career-awareness-week)), November 11-16 Davina Pruitt-Mentle provided the update.

* The team is looking forward to hearing how others will help advocate and celebrate this event.
* We encourage members to [register a commitment](https://www.nist.gov/itl/applied-cybersecurity/nice/events/national-cybersecurity-career-awareness-week/events-and) on the website portal. Commitments are actions taken by the community to promote cybersecurity careers and messaging for opportunities as to why people should go into this field.
* Additional resources have been added to the NCCAW website and continue to be added.
* We encourage everyone to help promote the week. Please engage and share any activities you have planned for the week or resources you have developed*.*

## **NICE Annual Conference**, November 18-20, 2019 - Randy Pestana, Florida International University, provided the update

* The NICE Conference is scheduled for November 18-20, 2019 in Phoenix, AZ.
* Th 2019 conference is building on last years. There is a very strong conference track.
* Two of the four pre-conference workshops still have availability, but the Structural Design and NICE Framework workshops have sold out.
* Additional room blocks have been requested so make your reservations now.
* For any interested exhibitors, this is the last week to purchase your booth. If you are interested, please visit the website where you will see a sponsorship package.
* Find out more [here](https://niceconference.org/).
* Please email: [info@niceconference.org](mailto:info@niceconference.org) with any questions.

## **NICE K12 Cybersecurity Education Conference**, December 9-10, 2019 – Amber Lindsay, Vice President, iKeepSafe, provided the update.

* The NICE K12 conference is scheduled for December 9-10, in Orange County, CA.
* This year’s conference theme is shaping all of the planning and programming: Innovation, Vision and Imagination: Harnessing the Talent of Today.
* There are over 100 speakers with 8 different pre-conference workshops.
* The agenda is available online.
* Everyone is encouraged to book their hotel reservations now. The group rate will be available through November 18th.
* Find out more [here](https://www.k12cybersecurityconference.org/).

## **NICE Challenge Project** – James Ashley III, Lead Engineer/Project Manager, CSUSB, provided the update.

* Five more challenges will be released next month which are mapped to the “Protect and Defend’ category.
* They continue to see major user base growth, particularly in the k12 space.
* They have been at maximum use capacity a few days a week.
* The NICE Challenge Project is preparing for both the NICE and K12 conferences and will have a booth at both.
* Find out more [here](https://nice-challenge.com/).

# Summary of Action Items

# Dr. Griffith reflected on the term ‘Power Skills’ which covers terms such as ‘soft skills.’ Power Skills are the ones that make you career ready and not just job ready.

* Danielle informed the group that during the NICE Conference, there will be a NICE Working Group meeting on November 18th at 5:00pm MT which is open to the public. There will be a brief introduction but most of the meeting will be designated for subgroup break-out sessions. Participants will have a chance to go around the room ask questions. Subgroups are encouraged to discuss new ideas. A representative from each subgroup will be present.
  + Additionally, the NICE Program Office will have badge ribbons to hand out to working group members. Look for those near the registration booth.

# Next Meeting Reminder - The next NICE Working Group meeting is scheduled for Wednesday, December 4, 2019.