**NICE Working Group**

**Meeting Minutes**

**Date: June 26, 2019 Time: 3:30 PM EDT**

**Adobe Connect session:** <https://nist-nice.adobeconnect.com/nicewg/>

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

# Introduction and Ground Rules

1. Bill Newhouse, Deputy Director, NICE, 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.
2. During this meeting the Adobe Connect chat box feature should be utilized to provide feedback and ask questions.
3. Bill 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.

# NICE Program Office Updates

## Rodney welcomed everyone, and noted Summer is time for vacations, planning, and conferences.

## This year's NICE summer interns have arrived. The interns introduced themselves:

### Thomas Hayes, Undergraduate from the University of North Georgia. He is working with the NICE team on the Cybersecurity Career Pathways project focusing his efforts on pathways for veterans, college students, and adult workers. He is also working on a diagram to map entry level pathways to cybersecurity careers and a resource page that will be online. Thomas's internship is under the auspices of the [SURF](https://www.nist.gov/surf) Program.

### Kelley Li is a high school summer intern. She attends Montgomery Blair High School. Her internship is under the auspices of the [SHIP](https://www.nist.gov/careers/summer-high-school-intern-program) Program.

### Rickie Grigsby is a post graduate intern. She is a student at Cal State, San Bernardino. She is working on developing a workshop focused on minorities in cybersecurity to be held next year. She is also working on implementing recommendations from the [Executive Order](https://www.nist.gov/itl/applied-cybersecurity/nice/resources/executive-order-13800).

### Finally, Rodney mentioned how great it is to bring students in and to get their perspective. There is also opportunity for faculty to spend time at NIST.

# Standing Items

## Report Roundup – learning from good ideas

### Karen Heslop, Director, Content Strategy, ISACA, presented on “The State of Cybersecurity 2019.”

#### Karen presented findings from the [ISACA survey](https://cybersecurity.isaca.org/state-of-cybersecurity) on the state of cybersecurity.

#### The most recent survey had 1,576 responses with over 17 industries represented. This report essentially reinforces the findings of prior years. Consistency is good from managers perspective, as it helps to figure out how to meet challenges.

#### The need for trained cybersecurity professionals still exists.

#### Cybersecurity positions tend to remain open for more than 90 days. Respondents indicate there are few qualified candidates. Retaining people continues to be difficult. Most people leave positions for more money or incentives.

#### The top three threat actors are the same: cybercriminal, hackers, and non-malicious insiders.

#### There is a perception that cybercrime is underreported. Most respondents believe cybercrime is unreported even when legal requirements exist to report breaches. Karen emphasized this is perception and not fact.

#### The survey also found that teams that report to the CISO are more confident in their ability to work effectively than those that do not. In many organizations the CISO reports to the CIO. Some organizations have direct report lines to the CIO. The CEO scored higher than the CIO in promoting team confidence in the survey findings.

#### While consistency is good, the challenge is what we need to think about.

### See the presentation find out more [here](https://cybersecurity.isaca.org/state-of-cybersecurity).

### Will Markow, Manager of Client Strategy – Analytics, Burning Glass, presented on “Recruiting Watchers for the Virtual Walls: The State of Cybersecurity Hiring.”

#### Will presented on research just released on June 26, 2019. Burning Glass has been observing the cybersecurity workforce for six years. They want to provide actionable data for those who want to assist the cybersecurity workforce.

#### Key findings include the number of cybersecurity postings has grown and is still growing three times faster than IT jobs overall; the number of workers per opening is much smaller across the economy in general; cyber jobs account for 13% of all information security jobs. Cyber jobs take 20% longer to fill than other IT jobs.

#### The research looked at what skillsets were most important: There has been a shift away from compliance-related skillsets in cyber toward management related skills.

#### Many employers want to bring in workers who can automate lower level tasks. There is a tradeoff in cost to hire higher skilled (and more experienced) workers who can do the automation versus the cost of hiring multiple lower skill workers to do tasks manually.

#### Which skills are growing fastest? Skills related to cloud and IoT. There is also growth in risk management and frameworks.

#### When will [CyberSeek](https://www.cyberseek.org/) be updated? It's been determined what will be included in CyberSeek 2.0. Data updates are in process. It will happen at least before the NICE conference in November, possibly sooner.

#### Is there a projection on whether supply will increase? There is no information on graduates at this time. CyberSeek looks at growth of cyber related skills and jobs. The hope is this will impact number of graduates.

### See the presentation and find out more [here](https://www.burning-glass.com/research-project/cybersecurity/).

## Strategy Stories – new developments that align to NICE Strategy

### Rosi Kloberdanz, Director, EduTech and ND K-20W Initiative, North Dakota Information Technology presented on “K-12 and workforce ecosystem alignment to cybersecurity workforce and curriculum standards.” This topic aligns with [NICE Strategic Plan](https://www.nist.gov/itl/applied-cybersecurity/nice/about/strategic-plan) Objective 2.5: Facilitate the development and dissemination of academic pathways for cybersecurity careers and 3.3: Facilitate state and regional consortia to identify cybersecurity pathways addressing local workforce needs

#### North Dakota's governor has made cybersecurity a major priority in his state agenda. Closing the skills gap is central.

#### North Dakota is targeted by bad actors because oil resources, nuclear sites, and military bases all exist within the state. The threat landscape is similar to other states. It has adopted a state-wide cyber strategy and is developing a statewide cyber approach. Thinking bigger and bridge gaps while preparing today for tomorrow.

#### Technology affects every field. Six million cybersecurity job openings are estimated for this year. North Dakota had 116 cyber graduates in 2018.

#### Forty different organizations are working together voluntarily on the K-20W project. The goal is to organically grow the cybersecurity workforce in North Dakota. The state is the first in the nation to develop computer science and cyber-content standards.

#### Efforts are also happening to train teachers. The initiative provides statewide instruction for teachers. To date, over 1,200 teachers have been trained.

#### North Dakota recently held its first statewide simultaneous hour of code. They are also working on apprenticeships, pre-apprenticeships, and other programs. The group meets quarterly.

#### The Governor's interest in technology dates back to when he started a technology business. North Dakota now has the second largest Microsoft campus in the country. The state has set long range priorities in cybersecurity.

### See the presentation and out more [here](http://www.edutech.nodak.edu/) and [here](https://www.nd.gov/itd/news/6206/teaching-tech-21st-century-success-north-dakotas-k-20w-initiative).

## Metric Moment – what gets measured gets done

### Dr. Aurelia T. Williams, Professor, CS Dept., Norfolk State University presented on “Consortium Enabling Cybersecurity Opportunities and Research (CECOR) Metrics.”

#### Dr. Williams works with a collaborative effort funded by the Department of Energy. The effort partners with national labs, colleges, and others.

#### The goal is to be recognized as a leader in developing highly qualified cybersecurity researchers and practitioners. [CECOR](http://www.cecork20.org/) started with five goals, with a sixth added later.

#### Consortium activities center around five areas: cybersecurity capacity building, education and training, research, workforce development, and partnerships. They created short term metrics and a heat map to identify 139 activities where data was available.

#### They used surveys and focus groups, interviews, and observations. Of those activities, there were approximately 3,827 non-discreet participants. Most were from the K12 realm. CECOR student survey data was categorized, and the comfort level of participants was also measured. Participant intention to pursue a degree was also measured.

#### The internships were helpful to students. Some interns have been hired into Departments of Defense and Energy. For internships for eligible students with the national labs, the hire rate is about 50%.

### See the presentation and out more [here](https://likemiketoo.github.io/).

# Subgroup Updates

## Apprenticeship –

### Marian Merritt, Lead for Industry Engagement, NICE provided the update.

#### This subgroup is working to increase learning on apprenticeships.

#### Members are compiling lists of various approaches to work enhanced learning. A briefing is planned for the next meeting.

#### The Apprenticeship subgroup meets the fourth Friday of each month at 11:00 a.m., ET.

#### Visit the Apprenticeship subgroup website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/apprenticeship-sub-working-group).

## Collegiate –

### Stephen Miller, Co-chair, provided the update.

#### Three projects are currently underway in the subgroup.

##### Tools, Technology, and Skillsets is in the process of wrapping up. The project is looking to have the deliverable published by the end of summer.

##### The Value of Higher Education project is researching references and trying to demonstrate the value added with a degree from a higher-level educational institution. The project meets the third Wednesday of every month.

##### The Career Pathways project is led by Rodney Petersen. The project examines different pathways to cybersecurity careers. Thomas Hayes is assisting the group to develop some tools for the project. The next meeting is in third week of July.

#### The next subgroup meeting will be July 9th at 3 Eastern. New project ideas are being discussed.

#### 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.

#### Three new members have joined the subgroup since last month.

#### Last month's presentation was from IBM on Watson and AI based solutions identifying cybersecurity talent. The subgroup also discussed new projects.

#### Work is in progress to create a template for how to share what the subgroup does at other events. The subgroup welcomes recommendations for local smaller competitions.

#### Dr. Dan Manson has published two new [podcasts](https://www.youtube.com/cyberfed).

#### Share upcoming competitions with Brad. At the next meeting Bill Newhouse will have interns talk about their competitions experience.

#### The next meeting is scheduled for July 16th at 3:00 pm, 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, Lead for Academic Engagement, provided the update.

#### The previous subgroup meeting had a presentation on cybersecure zone.

#### There is a speaker or presentation each month. Laurin Buchanan updated the one-pager for school counselors. It is out for review.

#### The NICE K12 Conference is scheduled for December.

#### The subgroup is looking for a new co-chair, as Patrick will be completing his term in November.

#### Subgroup members are trying to close out older deliverables and look at new projects.

#### The next K12 subgroup meeting is July 10th at 3:30 p.m., 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 project group has continued with mapping certifications to the NICE Framework.

#### Recent meetings have had presenters from IBM and CyberVista to talk about training programs.

#### The subgroup is interested in a variety of training elements, and opportunities to expand its impact.

#### Ideas for new projects are welcome, and the next meeting is July 8th at 2:00 p.m., 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 –

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

#### The Subgroup met last week with ten new members.

#### They discussed proposed projects.

#### The group will review a draft special publication on Cybersecurity Role-Profiles for Training.

#### The next meeting is July 18th at 1:00 p.m., ET.

#### 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/toolkit))

### Davina Pruitt-Mentle provided the update.

#### NCCAW will be held November 11 – 16, 2019.

#### A refresh for the landing page will be happening soon.

#### Additional resources are being developed for the Toolkit. We are looking for resources from partners, etc. Anyone with resources to make available to the toolkit, please let [Davina](mailto:davina.pruitt-mentle@nist.gov) know.

#### Commitments are actions taken by the community to promote cybersecurity careers and messaging for opportunities as to why people should go into this field.

#### The [call for commitments](https://www.nist.gov/news-events/news/2019/05/call-new-national-cybersecurity-career-awareness-week-commitments-now-open) is open. There are many free ways to get involved. Please think about how to share individually and start preparing.

#### Find out more [here](https://www.nist.gov/itl/applied-cybersecurity/nice/events/national-cybersecurity-career-awareness-week/toolkit).

## NICE Annual Conference

### Laura Bate, Policy Analyst, Cybersecurity Initiative, New America provided the update.

#### The NICE Conference is scheduled for November 18-20, 2019 in Phoenix, AZ.

#### This year’s theme is “Reimagining the Future of the Cybersecurity Workforce: Adapting to a Changing Landscape.”

#### The conference features four tracks.

##### 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

#### There are many excellent proposals. Thanks to all who submitted a proposal and to those who let others know. Notifications to speakers will go out in early July.

#### Conference registration starts July 22nd with a tier cost structure. This venue is larger than last year, but max capacity was achieved last year. The hotel is currently open for booking.

#### Find out more [here](https://niceconference.org/).

## NICE K12 Cybersecurity Education Conference

### Amber Lindsay, Vice President, iKeepSafe provided the update.

#### The NICE K12 conference is scheduled for December 9-10, in Orange County, CA.

#### Preconference workshops are being held December 7-8.

#### The call for proposals closed June 15th, with a twenty percent increase in submissions over last year.

#### Speakers will be notified in mid-July.

#### The government rate on hotels is now available.

#### Registration and keynote speaker announcements will happen in late July.

#### There will be a conference app for attendees to use this year.

#### Find out more [here](https://www.k12cybersecurityconference.org/).

## CAE Community

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

#### The CAE Virtual Career Fair is happening on September 27th. It is a nationwide career fair.

#### CAE is looking for employers to join this year.

#### CAE and the Cybersecurity Symposium follows the NICE conference in November. The conference will have research presentations and presentations from the CAE-R community.

#### The call for proposals for the symposium will go out in mid-July.

#### Anyone interested in joining the program committee, please contact [Anastacia](mailto:Anastacia.Webster@csusb.edu).

#### Find out more [here](https://www.k12cybersecurityconference.org/).

## NICE Challenge Project

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

#### The NICE Challenge Project develops real world environments for students.

#### One hundred unique challenges are available.

#### Three-hundred fifty educational institutions participate across the U.S.

#### During the summer the staff works on larger projects and content releases that are not possible during the academic year.

#### They are laying the ground work for on-demand challenge access. Back end features are being developed now.

#### Find out more [here](https://nice-challenge.com/).

# New Business

## Marian Merritt, Lead for Industry Engagement, NICE, presented on the publication of the “Healthcare Cybersecurity Workforce Development Guide.”

### The healthcare environment has a unique cybersecurity challenge. Records contain personal information which and people can access.

### Increasingly, there are more connected devices: laptops, connected therapeutic, and diagnostic systems, as well as others.

### There has been a lack of investment in cybersecurity for healthcare. There are many vulnerabilities for patient safety.

### The Healthcare Sector Coordinating Council (HSCC) designated sixteen critical infrastructure groups. Marian volunteers with HSCC. The key deliverable from a working group was a white paper on the healthcare cybersecurity workforce.

### The group is working on cyber curriculum for non-IT doctors, nurses, and others. It is also working to map hybrid jobs or unique healthcare jobs to the NICE Framework.

### [Marian](mailto:marian.merritt@nist.gov) requested feedback on the Healthcare Sector Coordinating Council (HSCC) industry cybersecurity workforce guide. It is meant to be a living document.

### See presentation and find out more [here](https://healthsectorcouncil.org/workforce-guide/).

# Summary of Action Items

* Slides will be provided with meeting minutes.
* We will add new members who requested during today's meeting.

# Next Meeting Reminder – The next NICE Working Group meeting is scheduled for Wednesday, July 24, 2019.