**NICE Working Group**

**Meeting Minutes**

**Date: February 27, 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 first NICE Working Group meeting of 2019. 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.

## The NICEWG is not intended for advertising and promotional purposes and to keep this in mind when participating and using the chat feature. Danielle urged all participants to collaborate and share information while working on projects.

# NICE Program Office Updates

## Rodney Petersen, NICE Director, provided the program office update.

### The January 2019 working group meeting was cancelled due to the partial government shutdown.

### Conference planning for 2019 is moving forward. The [RSA Conference](https://www.rsaconference.com/) is coming up quickly in San Francisco. It is an annual event attended by industry and government.

### Danielle described NICE outreach, along with NIST participation planned at RSA.

#### NICE representatives will speak at two conference sessions on March 6th: a NICE Framework workshop on Wednesday morning, and, Danielle will be speaking with a New America partner presenting strategies to solve the gender gap in cybersecurity.

#### NIST will have a booth in the exhibit hall. See the [conference agenda](https://www.rsaconference.com/events/us19/agenda) for times.

#### There is a Monday evening meet and greet with the NICE Program Office, a Tuesday demo on the [NICE Framework](https://www.nist.gov/itl/applied-cybersecurity/nice/resources/nice-cybersecurity-workforce-framework), and a Wednesday demo on [CyberSeek](https://www.cyberseek.org/). We are looking forward to seeing everyone. Let us know in the chat if you are attending.

## Rodney noted the RSA Conference brings international guests to the United States. NICE will be working with other countries who want to utilize the NICE Workforce Framework.

## International engagements are ongoing over the course of the year.

## There will be focus on cybersecurity careers this year. [NCCAW](https://www.nist.gov/itl/applied-cybersecurity/nice/events/national-cybersecurity-career-awareness-week) is the chief way to raise career awareness. There is also a new NICE Cybersecurity Careers Pathway project team.

## Work will be ongoing to refine the NICE Framework.

# Opening Remarks

## Academic Co-Chair – Dr. José-Marie Griffiths, Dakota State University

### Rodney welcomed Dr. Griffiths to her first meeting as a working group co-chair.

#### Dr. Griffiths noted she is pleased to see the government is back in action. She recently met with U.S. Secretary of the Air Force Heather Wilson and introduced her to the [NICE Cybersecurity Workforce Framework](https://www.nist.gov/itl/applied-cybersecurity/nice/resources/nice-cybersecurity-workforce-framework). Secretary Wilson is currently working on an RFP on cybersecurity training that will utilize the Framework.

#### Dr. Griffiths is looking forward to getting to know everyone and getting familiar with the group's work.

## Industry Co-Chair – Jason Hite, Founder, Daoine Centric LLC

### Jason noted it was great to meet everyone at the NICE Conference in November. He is looking forward to working with everyone this year.

# Standing Items

## Report Roundup

### William Crumpler, Research Assistant, Technology Policy Program, CSIS presented on "The Cybersecurity Workforce Gap".

### [CSIS](https://www.csis.org/) recently published a [report on the cybersecurity workforce gap](https://www.csis.org/analysis/cybersecurity-workforce-gap) that looks at the education and training environment for cybersecurity positions. Is the training available going to meet the needs of organizations?

### Shortages exist for every cybersecurity position organizations need. The most severe shortages exist in the most advanced level positions.

### Is the training environment preparing people for these roles? There are three main areas of concern: fundamentals of information systems (graduates lack basic understanding of information systems), hands-on experience (graduates are not "work-ready"), and soft skills (graduates struggle with communications, teamwork, and problem solving).

### CSIS wanted to understand what can be fixed and how to fix it. They looked to the UK Cyber Retraining Academy (a 10-week, hands-on fundamentals course), the CAE-CO program (an emphasis on fundamentals and hands-on experience), and the U.S. Cyber Challenge.

#### The CAE-CO model may help to address gaps quickly. The [Centers for Academic Excellence](https://www.nsa.gov/resources/students-educators/centers-academic-excellence/) is considered to be the "gold standard" for cyber education because of its emphasis on fundamentals.

#### The [U.S. Cyber Challenge](https://www.uscyberchallenge.org/) series of challenges and competitions is important because of its hands-on experience and continual refinement of content and method. It helps improve standardization of competitions.

#### Are there numbers to back up what is asserted here? The primary methodology was a series of interviews with 15-20 practitioners.

### See the attached presentation and find more information [here](https://www.csis.org/analysis/cybersecurity-workforce-gap).

## Strategy Stories

### Scott Young, Director, President, SynED, presented on the [California Mayor's Cup](https://ca-cyberhub.org/resources/mayors-cyber-cup/).

This presentation aligns with [NICE Strategic Plan](https://www.nist.gov/itl/applied-cybersecurity/nice/about/strategic-plan) Objective 2.3: Inspire cybersecurity career awareness with students in elementary school, stimulate cybersecurity career exploration in middle school, and enable cybersecurity career preparedness in high school.

### The [California Cyber Hub](https://ca-cyberhub.org/) was formed with government leaders, military, and others to create an organization to reduce duplications of effort in cybersecurity workforce development across California. SynED leads the effort.

### This year the CA Mayor's Cyber Cup created guidelines to bring cybersecurity awareness to main street. The CA Mayor's Cyber Cup consists of regional competitions with local towns each represented by the mayor of that town. This year there were:

#### 12 simultaneous competitions (video linked)

#### 1,300 competitors

#### 270 teams

#### 45 new teams (20 of those from rural Northern CA)

#### 150 City/Mayors represented

### The goal is to have 3-4 competitions a year that vary in content. Scott's group would like to provide a list of competitions that are based on the NICE Framework.

### Connections and skills learned doing competitions have contributed to changing the lives of youth. Competitions build community awareness and challenge the idea that cybersecurity is about only technology.

### Scott will be at the RSA Conference next week. He would love to connect with everyone from NICE at RSA. Questions can be emailed to Scott.

### See the attached presentation and find more information [here](https://ca-cyberhub.org/resources/mayors-cyber-cup/).

## Metric Moment

### Callie Dean, Cyber Innovation Center, presented on NICERC Metrics.

#### [NICERC](https://nicerc.org/) is based in Bosier City, LA. NICERC is focused developing K12 STEM curricula, and working with teachers.

#### They have a grant from DHS CETAP to focus on developing teachers. In the previous grant cycle:

##### Over twelve thousand teachers now have access to curricula from all 50 states and 3 U.S. territories;

##### Over nine thousand teachers have been trained;

##### Nearly 300 training camps, workshops and events across the country;

##### 15 full courses ranging from elementary, to middle and high school;

##### Student impact now stands at 2.1 million students from all fifty states and 3 U.S. territories.

#### A new grant cycle began last year that lasts until 2023. The team has developed a visual representation of the path of the program for the next cycle. (theory of change).

#### Three strategies, or pillars of change (curricula, professional development, and community engagement), will be used to create integrated teaching on cybersecurity in the classroom, increased community awareness and increased student achievement and interest in cybersecurity, and the lasting impact of an expanded cybersecurity workforce. The path shown will lead to more students in cybersecurity and entering cybersecurity careers. There are evaluation plans for students, teachers, and communities for the 2018-2023 grant period.

### NICERC will be piloting a new tool for schools to evaluate their programs. The plan will evaluate teachers, students, and schools and communities.

### What is the difference between outcomes and impacts? It is a question of timing. An outcome can be determined immediately. An impact only shows itself over the longer term.

### See the attached presentation and find more information [here](https://nicerc.org/).

# Subgroup Updates

## Apprenticeship

### Marian Merritt provided the update.

#### The Apprenticeship landscape tracker is now in [SharePoint](https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG/Apprenticeship/SitePages/Home.aspx).

#### Additional projects are being discussed including an FAQ.

#### The next meeting is March 22, 2019 at 11:00 a.m., ET. Visit the Apprenticeship website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/apprenticeship-sub-working-group).

## Collegiate

### Rodney Petersen provided the update.

#### The new career pathways project team kicked off on February 26. They will start with an environmental scan to review existing pathways materials.

#### Anyone with related documents can share with Rodney by email.

#### The project team will meet monthly. We want to think creatively about related deliverables that will help a wide variety of people.

### Value of Higher of Education project

#### A previous deliverable exists on the value of certifications developed by the Training and Certifications subgroup.

#### Similar documentation exists for higher degrees. The value of higher education degrees has come under attack recently. This team aims to increase the value proposition of higher education.

### The next meeting is March 12, 2019 at 2:00 p.m., ET. Visit the Collegiate website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/collegiate-sub-working-group).

## Competitions

### Laurin Buchanan, Secure Decisions, provided the update.

#### The Competitions subgroup held its first meeting of 2019 last Tuesday. The group reviewed working group metrics and discussed what the group will do this year, including how to get the word out at non-NICE events to bring more attention to competition activities.

#### One pagers and white papers exist, but we may want to consider more individualized communications for specific audiences. The group discussed how to get the message to HR managers and using TECHNA.

#### We would like to have subgroup members to be ambassadors for competitions at events.

#### Regional competitions are coming up in April.

### The next meeting is March 19, 2019 at 3:00 p.m., ET. New members are welcome. Visit the Competitions website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/competitions-sub-working-group).

## K12

### David Hernandez, American Express Global Travel, provided the update.

#### The K12 subgroup just held its first meeting for 2019. There was a presenter who spoke about developing topics and lesson plans for instructors to use teaching all levels of K12, and to acquire industry people to participate in the class room. Would like to do "train the trainer" or guest speakers.

#### The K12 Conference last December saw many educators from around the country in attendance.

#### Accomplishments for 2018 included completion of the [K12 Implementation Plan](https://www.nist.gov/sites/default/files/documents/2017/04/26/nice_k12_implementation_plan.pdf), Code.org CS framework input, and planning for NCCAW.

#### The NCCAW 2018 event was very successful. We are looking for all 50 states to participate in the event this November.

#### More documentation will be developed to create improved events.

### Looking to create more shareable resources. A CTE pathway will be developed for states to implement.

### The next meeting is March 13, 2019 at 3:30 p.m., ET. Visit the K12 website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/k12-sub-working-group).

## Training and Certifications

### John McCumber, (ISC)2 provided the update.

#### John is the new Training and Certifications Co-chair.

#### John spoke about polishing and finishing existing initiatives. He met with the CIO of the Dept of Energy. Following RSA, he will be meeting with DoD to update their directives.

#### They are looking to harmonize training and certifications across the federal government by using the NICE Framework to leverage the effort.

### The next meeting is March 13, 2019 at 2:00 p.m., ET. Visit the Training and Certifications website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/k12-sub-working-group).

## Workforce Management

### Susie Cone, IT Consultant provided the update.

#### The Workforce Management subgroup met for the first time this year.

#### The subgroup received over a dozen new members in December 2018.

#### The [guidebook](https://www.nist.gov/news-events/news/2018/10/cybersecurity-everyones-job) was completed in late 2018. It has been published and the group is working on communications strategies to spread the word about the guidebook.

#### The subgroup is looking at ways to expand the guidebook, including possibly sector specific guides, and different additions such as maturity levels and tying the guidebook to the NICE Framework.

#### There are other ideas for the group to tackle. Maurice and Susie will be developing a survey to try to determine the subgroup interest in different areas.

### The next meeting is March 21, 2019 at 1:00 p.m., ET. Visit the Workforce Management website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/workforce-management-sub-working-group).

# Project Progress Reports

## CAE Community

### Anastacia Webster, California State University, San Bernardino provided an update on the CAE Community.

#### Representatives of the CAE community will be at [WiCyS](https://www.wicys.org/).

#### Plans for the CAE Symposium are being finalized. A “Save the Date” will be coming soon.

#### The dates for the next CAE Virtual Career Fair, to be held in October, will be announced soon.

#### On the CAE Community website, there are resources including webinars and pep talks. Find out more [here](https://www.caecommunity.org/).

## NICE Annual Conference

### Randy Pestana, Florida International University (FIU), provided the update.

#### Save the date for the 10th Annual NICE Conference and Expo. The conference will be held November 18-20 at the Sheraton Grand Phoenix in Phoenix, AZ.

#### FIU is partnering with New America and Arizona State University to host the event.

#### The call for proposals will open on March 25th and end May 19th.

#### Room blocks, sponsor and exhibit packages will open in March. A larger space for the exhibit hall has been reserved since last year was sold out.

#### Randy will be at [RSA](https://www.rsaconference.com/) and [WiCyS](https://www.wicys.org/). Feel free to contact Randy.

### See presentation and find out more [here](https://niceconference.org/).

## NICE K12 Cybersecurity Education Conference

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

#### Save the date for the 2019 NICE K12 Cybersecurity Education Conference. The conference will be held December 9-10 at the Hyatt Regency Orange County in Garden Grove, CA.

#### Sponsorship and exhibit hall prospectus will be available early March.

#### Last year there were over 435 attendees. This was a significant increase. They anticipate more availability this year.

#### The planning committee will convene for the first meeting on March 20th. Contact Davina Pruitt-Mentle, Academic liaison for NICE, to participate.

#### The call for proposals opens April 11th.

#### The process for identifying key note speakers is starting. Please reach out to Felicia with any recommendations!

#### When asked if there are there events or workshops that kids can attend, Felicia notes that previous conferences were geared to educators although some students attended including student presenters. Felicia believes there is enough content that young people would be engaged. There is discussion on more offerings for students and additional feedback on this topic is welcome.

### See presentation and find out more [here](https://www.k12cybersecurityconference.org/).

# New Business

## Dr. David Tobey, National CyberWatch Center presented on the topic of “Cybersecurity Skills Journal: Practice & Research”

### The journal is a quarterly peer review focused on presenting ideas and evidence-based approaches. It is disseminated using the open access framework. There is also pay access from individual content contributors who wish to contribute content. This enables an outlet for others to disseminate information.

### This is the first and only journal on cybersecurity. It was initially designed for community colleges, but now includes all higher education.

### Dr. Tobey spoke about better dissemination of effective practices and education of cybersecurity. The approach is to bring together varying venues and offer information that people could benefit from for many years to come.

### Their review panel is highly constructed to help the author get their materials into shape. Content to be published is presented to a review team.

### The community has lacked a way to determine how effective practices are and a way to determine how effective things are that were promoted.

### For NICE, think about creating a publication of NICE conference materials or consider the concept of publishing presentations at NICE events.

### For those interested in more information on the Cybersecurity Skills Journal, please contact dhtobey@indiana.edu

### See presentation and find out more [here](http://www.nationalcyberwatch.org).

## James D. Ashley III, Lead Engineer/Project Manager, CSUB, provided a demonstration of the “NICE Challenge Project”

### The project team has recently re-refined their mission. The goal is to bring the most realistic missions to students, at scale, year-round, while also generating useful assessment data about their knowledge, skills, and abilities for educators.

### Three pillars have been developed to accomplish the mission. on how we develop and deliver the challenges.

#### The platform was developed in-house. Users do not need to install anything including additional software. It is hosted on a public cloud.

#### Challenges are competency-based assessments focused on real-world problems.

#### The environment is tailored around the [NICE Framework](https://www.nist.gov/itl/applied-cybersecurity/nice/resources/nice-cybersecurity-workforce-framework) categories. In general, challenges are designed by work role and task.

### Users login to the dashboard to go to a challenge. Inside a work space there are challenges to deploy.

### Challenges bring students real world scenarios. Students are introduced to characters that provide instructions.

### Challenges have automated scoring checks with descriptions that tell students what they need to do.

### Students may look at network traffic to analyze and make observations. At the end of a challenge, students document what was found and return this to a professor.

### Once a challenge is completed, users can look at the submission’s summary. This summary shows data on the challenge.

### Recent user interface updates have been implemented to more actively communicate with users since the base is growing.

### Curator’s use the reservation selections which have been redesigned. There is a new implementation of strategy guides. They’ve been asked to produce solution guides but instead created strategy guides. The guides provide curators a way to see what should be looked at during a challenge. The idea is to not give answers so that students come up with their own answers.

### Monthly updates on this project are provided during the monthly NICE Working Group meetings.

### The NICE Challenge Project is available to accredited schools in the education space. When request for access is received, the team looks up the URL to see if it’s legitimate. The NICE Challenge is free to use for education institutions.

### The challenges are designed for college level students and upward. They do have some high school users as well. Middle schoolers may find it challenging because of the technical knowledge required. James stated they’ve not dealt with children age 13 and under. They would need to create specialized accounts that do not have PII.

### Webinars are scheduled for curators and for in-depth lessons on challenges.

### See presentation and find out more [here](https://nice-challenge.com/).

# Next Meeting Reminder. The next NICE Working Group meeting is scheduled for Wednesday, March 27, 2019.