**NICE Working Group**

**Meeting Minutes**

**Date: 11/29/17 Time: 3:30 PM EST**

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

# Introduction and Ground Rules

# Danielle Santos, NICE Program Manager, welcomed members to the meeting. The NICE Working Group 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 noted that participation in the NICE Working Group (NICEWG) is not intended for advertising and promotional purposes and to keep this in mind when participating and using the chat feature.

# NICE Program Office Updates

# Rodney Petersen, Director of the National Initiative of Cybersecurity Education, welcomed members to the meeting. Rodney noted that the additional two co-chairs would be unable to join the meeting.

# Rodney reflected on the NICE Conference. This year’s conference may have been the best one to date thanks to the very hard work of the NICE Conference Program Committee. The hospitality received from the Dayton, OH Welcome Commission was exceptional. The conference brings together a variety of contributions from academia, government and industry all working toward a common cause which is reflected in the NICE vision.

# This is the last NICE Working Group meeting in 2017 as the November and December meetings were combined. Looking ahead to 2018, there will be an increased focus on the strategic plan objective regarding women, minorities and veterans in cybersecurity. Although there have been some advancements in this area there have not been nearly enough. NICE will examine what is and is not working and what we can do to create change.

# There is currently an open comment period to provide input on the [Cybersecurity Workforce Capability Indicators](https://csrc.nist.gov/publications/detail/nistir/8193/draft). The capability indicators will help organizations build formal qualification requirements for each NICE Cybersecurity Workforce Framework work role. The government is required to use the NICE Framework and it is best if everyone is using the same language. The state of Virginia has adopted the framework and other states will soon do so as well.

# Finally, 2018 will see an increase in international engagement and we will continue to bring that information back to working group members.

# Standing Items

## **Fun Facts**

## Davina Pruitt-Mentle presented on the NICE K-12 Conference Demographics.

1. Approximately 60 middle school girls will be attending the pre-conference workshop sponsored by IBM.
2. Approximately 320 people from 37 different states are registered to attend the conference. Close to half of the conference attendees are in the K-12 community. There will be some non-profit representation including the Boys and Girls Club, First robotics, ITEEA, etc. There will be industry representation from organizations such as Merit Network, Inc, and Mastercard.
3. Members traveling the farthest for the conference will be coming from Hawaii, Alaska, BC, Japan, India and Senegal. A representative from the Czech Republic will be in attendance as well.
4. See the attached presentation for more information and find out more here: <https://www.k12cybersecurityconference.org/>

## **Report Roundup**

## Betsey Bizot spoke to the topic of “Assessing and Responding to the Growth of Computer Science Undergraduate Enrollments“.

1. Betsey is the Director of the Computing Research Association (CRA). Members are doctoral departments of computing and government and industry research labs. The focus of CRA is on research and doctoral education but some projects do extend to undergrad.
2. The organization’s annual Taulbee Survey collects information on students and faculty from North American doctoral institutions.
3. The survey showed antidotal comments from all sides about the surge in undergraduate enrollment in Computer Science (CS). A committee was formed to investigate the surge and how it was impacting institutions. Data was collected in fall of 2015 from both CRA and the National Academies but additional information about labor markets was added as well.
4. The CRA Generation CS report was published in February 2017. The National Academies Assessing and Responding to the Growth of Computer Science Undergraduate Enrollments report was released in October 2017. Additionally, in the fall of 2016 some additional data collection was done and findings were published in August 2017.
5. Some points of note from the CRA findings include:
	1. The average number of CS majors has tripled since academic year 2006-07.
	2. Growth is widespread through both public and private sectors and large and small units.
	3. Growth in non-majors is comparable to that of majors.
6. There are concerns regarding the shortage of teaching resources as the demand for faculty exceeds the supply of new PhDs. In part, this is due to the fact that most in the field go into industry.
7. Some schools are coping by increasing class size, as well as the number of classes themselves. Approximately half restricted upper level courses to those enrolled in the major or minor. Some have limited enrollment in high demand courses.
8. Overall with respect to the diversity data, women and minorities have increased slightly but not much.
9. Has anyone looked at cybersecurity degrees compared to CS degrees? Not at this time as there are not many degrees within cybersecurity.
10. See the attached presentation for more information and find out more here: [https://www.nap.edu/catalog/24926/assessing-and-responding-to-the-growth-of-computer-science-undergraduate-enrollmentshttps://www.nap.edu/catalog/24926/assessing-and-responding-to-the-growth-of-computer-science-undergraduate-enrollments](https://www.nap.edu/catalog/24926/assessing-and-responding-to-the-growth-of-computer-science-undergraduate-enrollmentshttps%3A/www.nap.edu/catalog/24926/assessing-and-responding-to-the-growth-of-computer-science-undergraduate-enrollments)

And here: <https://cra.org/data/Generation-CS/>

And here: <https://cra.org/crn/2017/08/2016-taulbee-survey-supplementary-report-course-level-enrollment/>

## **Event Engagement**

## Mike Warlick spoke to the topic of AFCEA Events.

1. AFCEA is a professional association that connects great ideas and vital solutions to advance global security. The association provides the opportunity to engage with academia, government and industry. Built on a foundation of open communication, AFCEA has grown as a member organization. There is a strong organization focus on technology, communications and cybersecurity. Out of 148 chapters there are 17 in Europe and 3 in the Far East.
2. AFCEA engages through outreach. They visit government offices and maintain contact with CIOs of different services in order to determine their challenges. AFCEA works diligently to maintain dialogue.
3. AFCEA also hosts many events throughout the year. Some events of note include:
	* 1. CERTS 2018 – January 2018 (Augusta, GA): Cyber Education, Research, and Training Symposium (CERTS)
	1. WEST 2018 – February 2018 (San Diego, CA)
	2. Defensive Cyber Operations Symposium – May 2018 (Baltimore, MD)
	3. Classified Cyber Forum – June 2018 (Chantilly, VA)
	4. AFCEA hosts many additional events – please visit the event site for more information: <https://www.afcea.org/site/Events>
4. In conclusion, Mike spoke to a few of ACEAS’s committees:
5. Cyber Committee: develops strategies and programs in support of our national cybersecurity interests.
6. Homeland Security Committee: develops strategies and programs in support of the homeland security community.
7. Technology Committee: Enhances AFCEAS’s outreach to the IT community to cultivate partnerships between and among government, academic and private sector entities and to foster the application of communications, electronics and information technology.
8. Small Business Committee: Enhances AFCEA’s outreach to the small business community. Develops strategies and programs to enable full inclusion of small business within AFCEA.

## **Strategy Stories**

## John McCumber spoke to the Global Information Security Workforce Study. This topic aligns to the NICE strategic plan Objective 3.4: Promote tools that assist human resource professionals and hiring managers with recruitment, hiring, development, and retention of cybersecurity professionals.

1. John is the Director of Cybersecurity Advocacy with ISC2. ISC2 oversees certifications such as CISSP as well as manages the exams.
2. ISC2 has a charity organization that produces training materials for K-12. Jim Davis created cartoons specifically for this training to create engaging videos for K-12.
3. This year’s Global Information Security Workforce Study found that we are on pace to reach a cybersecurity workforce gap of 1.8 million by 2022.
4. To address the skills gap we need to knock down barriers.
5. The place to begin is with underserved communities along with making certifications and training available to those people entering into the cybersecurity field.
6. ISC2 is updating all of their certifications to align with the NICE Framework.
7. See the attached presentation for more information and find out more here: [https://iamcybersafe.org/wp-content/uploads/2017/07/N-America-and maintain it in GISWS-Report.pdf](https://iamcybersafe.org/wp-content/uploads/2017/07/N-America-and%20maintain%20it%20in%20GISWS-Report.pdf)

## **Metric Moment**

## Frank Cicio presented on CWA Metrics.

1. The Cybersecurity Workforce Alliance (CWA) was designed to help train future college graduates for the present and future industry demands for cybersecurity talent.
2. The organization is focused on IT and business problems in the market. They built a platform dedicated to improving the cybersecurity skills and marketability of college students entering the workforce. They asked how do we engage with mentors in the market, bring them into the classroom, and utilize the NICE framework.
3. CWA brought 12 CISSOs from major banks into the program to help accelerate the workforce readiness and scale of students in the market.
4. CWA wanted to know how the program was impacting its students and began to gather some data last summer.
5. The program originally started with 17 students and they are now up to 100 plus.
6. Some of the key takeaways include:
	1. 99% of students enter the CWA course not aware of cybersecurity or considering opportunities in cyber.
	2. 33% of people graduate from the program with full time jobs in cybersecurity and 60% get jobs in the general fields.
	3. If you connect students with the real world they challenged and inspired.

### See the attached presentation for more information and find out more here: <http://files.constantcontact.com/7c54ca7c601/df37dea1-e5b3-43d7-b880-0e887e7fce58.pdf>

# Subgroup Updates

## **K-12** – Patrick Schultz, co-chair, provided the K-12 update.

1. Patrick informed members that he has replaced Carlos Garcia and thanked him for his leadership during his term as co-chair.
2. The NICE K-12 Conference is next week in Nashville, TN on December 4th and 5th.
3. During the last K-12 subgroup meeting, Kim Paradise of Life Journey presented on their work connecting students to the nations STEM leaders. Matt Pirko provided an overview of the work of the Career Pathways group within the Collegiate subgroup. There is discussion about combining the efforts of the Collegiate group with those of the K-12 which has also been working on academic and career pathways.
4. The National Cybersecurity Career Awareness Week took place in mid-November. The group will share additional information about the week during the next NICEWG meeting.
5. The K-12 group will be creating a repository of curriculum and best practices.
6. The group’s goal is to work closely with the Collegiate and Competitions subgroups to build a pipeline.

## **Collegiate** – Stephen Miller, co-chair, provided the Collegiate update.

1. The subgroup is currently working on two different projects. The first project is to address academic and career pathways.
2. The second project team is looking at different tools, technologies and skillsets required for cybersecurity jobs in order to provide those tools online through a portal. The portal will connect students with a sponsor and a mentor. The portfolio and portal as well as a white paper will be the project deliverables. They are currently trying to find sponsors so that they can offer the portal for free to students. They also need to find mentors to help with the review.

## **Competitions** – Laurin Buchanan, co-chair, provided the Competitions update.

1. The subgroup is working to develop a calendar of competitions to be maintained on the CyberCompEx site. If anyone has any information on Competitions please provide the information to the Competitions co-chairs.
2. They are working to identify opportunities for congratulating competitions winners.
3. They are developing a podcast series and seeking volunteers for this effort from the subgroup.
4. The group is also doing outreach with the Collegiate subgroup to work together on student passports and portfolios.
5. A survey link was recently sent to the group for members to select their preference for 2018 priorities.
6. The Competitions subgroup is also looking for a new co-chair to replace Jessica Gulick. Please contact Laurin Buchanan if you are interested: Laurin.Buchanan@securedecisions.com.

## **Training and Certifications** – Linda Montgomery, co-chair, provided the Training and Certifications update.

1. The group’s work on the mapping matrix is being finalized. They continue to have conversations on how the certification industry will remain relevant. They are also drilling down to different types of assessments. The group is examining how the matrix will evolve in terms of context.
2. The overarching goal is to guide industry certification evolution utilizing the framework.
3. The group is also finalizing the one-pager.
4. The group’s next meeting is on Wednesday, Dec 6th: at which time they will be finalizing the mapping matrix.

## **Workforce Management** – Kristin Judge, co-chair, provided the Workforce Management update.

* 1. Currently, the Workforce Management group has two main projects: the KSA Group and the guidebook group.
	2. The KSA group is working on ensuring the NICE Framework is interpreted correctly.
	3. The guidebook group are creating a guidebook of business areas to ensure people throughout a company are doing everything they can to mitigate cybersecurity risk and enhance the cybersecurity posture of an organization.
	4. The initial draft is almost complete. After the subgroup completes its final edits the draft will be brought to the larger NICE Working Group for more feedback. If anyone is interested please contact Kristin Judge or Maurice Uenuma: kjudge@cybercrimesupport.org and muenuma@tripwire.com.

# Project Progress Reports

## **CAE Community** - Anastacia Webster

1. The CAE community sponsored two events. A virtual career fair, on October 13, 2017. CAE partnered with CyberWatch West. There were about 1,400 persons in attendance with over 637 meaningful interactions. A survey indicates the event was positively received.
2. On November 9, 2017, CAE hosted a symposium in Dayton OH. The event was broadcasted live. The symposium brought together individuals from CAE institutions. Major changes within the community were communicated. Various speakers provided updates as well.
3. Next year CAE will host another career fair on October 5, 2018.
4. Find out more here: <https://www.caecommunity.org/>

## **NICE K-12 Cybersecurity Education Conference** – Davina Pruitt-Mentle

1. The conference will be held December 4-5 in Nashville, TN at the Omni Hotel
2. There will be a pre-conference workshop at no cost for 7th-9th grade girls sponsored by IBM. It will be held at the National Tech Council and the Nashville Girl Scouts will promote the event.
3. The agenda includes many exciting sessions as well as key note speakers, exhibits, birds of a feather discussions, and a wine & breadboarding evening social.
4. Find out more here: <https://www.k12cybersecurityconference.org/>

## **NICE Annual Conference** – Danielle Santos

1. The NICE Conference was held on November 7-8 in Dayton OH. The breakdown of attendance is as follows.
2. There were 430 persons registered and over 50 walk-ins during the first day.
3. Industry representation was 22%, academia at 64% and government 14%. NICE has been working on attracting more industry participation.
4. For conference attendees, the survey is out. Please use the following link: <https://www.surveymonkey.com/r/NICE-2017>
5. The program office hopes to have next year’s date by the end of this year.
6. See the attached presentation for more information. Presentations can be found here: <https://www.fbcinc.com/e/nice/presentations.aspx>

## **NICE Challenge Project** - James Ashley

1. The NICE Challenge is a custom web platform that provides cyber workforce challenges from the perspective of the NICE framework work roles. Challenges also map to CAE knowledge units. The platform provides year-round access for students before they get into the workforce.
2. Over the past year the project registered over 100 new institutions and over 150 new curators.
3. There was more curator than institutions growth. There is a lot of progression through word of mouth and recommendations from peers. We expect to see this trend continue.
4. New challenges were developed and our catalogue expanded. A protect and defend feature was released. Altogether, about 30 new challenges were released.
5. Next year the project will feature the capability for more concurrent users. More challenges and an expanded catalog will be developed. The user interface will evolve to make it easier for people to use.
6. Find out more here: <https://nice-challenge.com/>

# Summary of Action Items

# Follow up on potential subgroup project suggested by Renee (a subgroup project that focuses on how to train internal associates on specific cyber crisis functions; a strategy to develop surge capacity within an organization).

# Minutes and presentation materials will be sent to all members.

# Next Meeting Reminder - the next NICE Working Group meeting is scheduled for January 24, 2018