**NICE Working Group**

**Meeting Minutes**

**Date: April 22, 2020 Time: 3:30 p.m. ET**

**SharePoint Page:** [https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG](https://nistgov.sharepoint.com/sites/NICEProgram/NICEWG/Pages/home.aspx)

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. Academic Co-Chair, Dr. José-Marie Griffiths, Dakota State University, noted these strange times. She hopes the working group will continue moving efforts forward. Dr. Griffiths thanked members for joining today.
8. Industry Co-Chair, Jon Brickey, Mastercard, spoke about adversaries being just as vicious as ever. They stop at nothing to take advantage during this crisis. Within Jon’s organization, they are working overtime and on future planning to develop teams to support these scenarios.
9. Government Co-Chair, Rodney Petersen, NICE, was unable to attend. Bill Newhouse, Deputy Director of NICE, spoke about the NICE Framework revision. They’ve been working through the spring and will continue into summer to develop a new revision of the Framework. They hope to make the Framework more digestible for all entities. Visit the [NICE Cybersecurity Workforce Framework Resource Center](https://www.nist.gov/itl/applied-cybersecurity/nice/nice-cybersecurity-workforce-framework-resource-center) for continuous updates.
10. **Standing Items**
11. **Report Roundup – Learning from Good Ideas**

Laura Bate, Director, Cyber Engagement, Cyberspace Solarium Commission, presented on the “Solarium Commission Report.”

* The U.S. Cyberspace Solarium Commission is a bipartisan, intergovernmental body created by the 2019 National Defense Authorization Act. Inspiration is drawn from the Solarium Project.
* The effort culminates in a public report with specific policy recommendations.
* The report is split into two sections. Section one speaks to strategy of layered cyber deterrence. Section two contains recommendations covering a range of different issues.
* Key concepts on workforce development include thinking beyond the boundaries of just cybersecurity and encourage interconnectivity. Working between all elements requires a lot of people.
* The report focuses on the federal government but must support all talent needed to create the growth.
* The commission looked at pathways and recognize that in order to fill careers, different on-ramps are needed. However, we should strengthen education recruitment programs that rely on 4-year degree programs.
* Objectives of the recommendations:
  + Identify new pathways into the workforce.
  + Enforce coordination across the government. This approach should be formalized and clearly defined.
  + Expand effective programs such as Scholarship for Service. We advocate expanding resources in these programs with proven track records.
  + Tap into all pockets of the workforce. Diversity should be a feature and not something tacked on.
  + Create a market for research to identify what works.
  + Provide a strong bedrock of education. This recommendation itself does a lot.
* Next steps for the commission are how to implement recommendations. We want to make sure the commission has impact past just the document itself.
* When asked about different pathways, Laura said much has to do with work-based learning such as hands-on, apprenticeships, and coupling on-the-job training with classes. Also, rotational talent exchange programs.
* With respect to more diversity, leaning on the element of creating a market of research will help better identify what is going on in the workforce environment. We need to understand what is working. We then hope to expand programs across the federal government and keep hiring managers up to date on bias.
* Within the marketplace there may be grant opportunities for researchers and others who have an interest in learning what is going on in the workforce.
* A participant asked about pushing cybersecurity earlier in the education chain. Laura commented that this is one of the hardest things to build. There are a lot of improvements regarding what’s being done, such as recommendations from the federal government on providing resources and setting up areas that educators can contribute to.
* Feedback on how the commission can be more supportive is welcome. Email Laura Bate at: [laura@solarium.gov](mailto:laura@solarium.gov)
* See attached presentation and find out more [here](https://www.solarium.gov/).

1. **Strategy Stories – New Developments that Align to NICE Strategy**

Stephen Quinn, Senior Computer Scientist & Program Manager, NIST, presented on “Cybersecurity and Enterprise Risk Management.” This presentation aligns to the [NICE Strategic Plan](https://www.nist.gov/itl/applied-cybersecurity/nice/about/strategic-plan) Objective 3.2: Publish and raise awareness of the NICE Cybersecurity Workforce Framework and encourage adoption

* Stephen noted that risk management is mentioned 134 times in the NICE Framework. One would think there would be a lot of overlap and common interface but there isn’t. Mentioning risk management does not get us in touch with the context.
* The first thing to tackle is organizational structure. Workforce has a home under a manager in a unit. Not all organizational units have the same hierarchy. There are workforce tasks needed to tackle roles and responsibilities.
* The team started looking across different models and noticed they talk about the same thing but use different languages. Moving forward, organizations can try to adopt a body of knowledge from an existing enterprise.
* This document attempts to demystify horizontal and vertical terminology.
* When asked if the document includes Cybersecurity Maturity Model Certification, Stephen replied that the short answer is hopefully. The document hopes to level the conversation with the body of knowledge of risk management. This is a foundational document that will have flagship documents.
* Stephen spoke about the notion of using a risk register which is somewhat foreign. In cyber space we see the risk report which has a lot of underpinnings that would be in a risk register. The idea of treating positive risk as an equal in the risk register is somewhat novel, similar to opportunity cost. There are some things to take advantage of.
* A member asked if cyber insurance covered in this space? Stephen responded it is a way of transferring risk. Risk can also represent an opportunity.
* The risk register can often become the risk profile of an enterprise. Everything in cyber may or may not make it into the top ten depending on an organization’s mission and objectives. Risk management lives all the way up and down the resource chain.
* This publication is still in draft and feedback is welcomed. The draft is open for public comment. In its current form, the draft publication is at about 80 – 85% of what the final will look like.
* Find out more [here](https://csrc.nist.gov/publications/detail/nistir/8286/draft).

1. **Metric Moment – What Gets Measured Gets Done**

Amanda Davi, Director of Business Development, Cybrary, presented “Cybrary Metrics.”

* Cybrary provides online, on demand, virtual content such as practice exams and virtual training. They work with partners and the community to build the content.
* They’ve developed learning programs that align with specific work roles. Adjustments can be made depending on the organization.
* The goal is to ultimately help organizations with the talent shortage.
* On any given week Cybrary averages 12,000 new members. They are now registering around 20,000 new members.
* Students make up of about 20% of the users, career changers 17%, IT professionals 33%, cybersecurity professionals 23%, and cybersecurity management 7%. The current breakdown is relatively the same. They plan a deeper dive later to see the trends happening around content.
* Cybrary scholars are those that are available to apply for a free one-year subscription with mentorship. They are launching a program within Maryland to provide 100 unemployed individuals access to the platform.
* When asked who trained the trainers on how to teach effectively, Amanda replied that there are over 2,000 unique people creating and assessing course content. There is a vetted process to create a Cybrary course. They have a proven rubric and the ability to coach on what makes a successful instructor.
* Cybrary has about 20-25 free courses available to anyone. Currently there is no specific free offering, but they are considering one.
* The Cybrary Scholars free program is available for individuals who have cybersecurity certifications (such as Security+) but no experience and need mentoring.
* When asked about whether Cybrary measures retention and course effectiveness. Amanda stated that within the rubric there are measurements such as time to learn, duration of training, and how long users stay tuned in.
* See attached presentation and find out more [here](https://www.cybrary.it/).

1. **Subgroup Updates**
2. **Apprenticeship**

## Tony Bryan, CyberUp, Subgroup Co-Chair, provided the update.

* The subgroup recently put out a survey about its focus areas. Findings highlighted employer engagement, return on investment, and a need for more granular data on apprenticeships. Additionally, there is a need to define the market for entry-level cybersecurity professionals. The subgroup wants to gain a better understanding of that market.
* In response to a question about the impact of social distancing on summer programs, Tony said that his organization has taken its curriculum virtual. They are still able to provide training and support for those coming to the program, and they continue to engage in conversations with employers so the pipeline will be open once everything returns to normal.
* The next Apprenticeship Subgroup meeting is scheduled for May 22nd 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).

1. **Collegiate**

### Denise Ferebee, LeMoyne-Owen College, Subgroup Co-Chair, provided the update.

* The subgroup is examining ways to deliver courses and ways to improve diversity in the collegiate realm. At the last meeting, they discussed challenges involved in online learning during the pandemic, including how to make sure students have access to online labs, and how to address technology issues and other challenges faculty are confronting.
* The next Collegiate Subgroup meeting is scheduled for May 12th at 2:00 p.m. ET.
* Visit the Collegiate Subgroup website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/collegiate-sub-working-group).

1. **Competitions**

### Brad Wolfenden, EmberSec, Subgroup Co-Chair, provided the update.

* The subgroup has made significant progress on its “How to Build and Run a Competition” guide, which outlines 10 things to consider when planning competitions. Wendy Ford, project lead, has submitted several rounds of drafts.
* At the last meeting, they discussed the challenges involved in remote competitions and how competitions might fill some distance learning needs in the current environment.
* The [podcast](https://www.youtube.com/cyberfed) project continues to add pertinent interviews with those involved in competitions.
* The next Competitions Subgroup meeting is scheduled for May 19th at 3:00 p.m. ET.
* Visit the Competitions Subgroup website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/competitions-sub-working-group).

1. **K12**

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

* The subgroup has finalized a One-Pager about K12 cybersecurity career awareness for school counselors and administrators. It is available on the K12 website [here](https://www.nist.gov/system/files/documents/2020/04/23/One%20Pager%20Counselors%20FINAL.pdf).
* In light of the changed environment and distance learning, the subgroup is compiling a list of online cybersecurity resources and information.
* The [National Cybersecurity Career Awareness Week](https://www.nist.gov/itl/applied-cybersecurity/nice/events/national-cybersecurity-career-awareness-week) (NCCAW) will be held November 9-13, 2020. The subgroup is looking for additional ways to engage the public, demystify cybersecurity, and expand awareness year-round.
* The subgroup is working on educational materials for K12, and they have assembled a list of nearly 1,000 items. Laurin encouraged anyone interested to join the effort. They also have provided input for a database of programs – such as camps, afterschool programs, and teacher development – under development at the University of Maryland.
* The next K12 Subgroup meeting is scheduled for May 13th 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).

1. **Training and Certifications**

### John McCumber, Subgroup Co-Chair, provided the update.

* At the last meeting, members discussed the pandemic environment because of its impact on training and certification. They talked about the evolution to online training and its implications for instructors. Members have seen a big impact on certification, especially for those who normally would have to show up at testing centers. They talked about the evolution to self-proctoring for online exams and new grading paradigms. Some programs have considered moving to a pass/fail model. John noted that some systems are not currently set up to deal effectively with some of these changes. [See Chat Log below for a variety of views and experiences regarding training and certification in the current environment.]
* The speaker at the last meeting was Chris Silbaugh, who presented a detailed view of the CyberKnights program, which can be used by professionals for career management, by companies, and by education providers.
* The “Cyber Range” project continues to move forward, and a current draft has been distributed. Those interested in the project can reach out to [Mike Morris](mailto:Mike.morris@wgu.edu).
* Work is moving ahead on the Illustrative Mapping project as well. The subgroup wants to make the existing spreadsheet more actionable.
* The subgroup continues to consider how to position cybersecurity as a viable option for people who receive army grants for post-military retraining.
* The next T&C Subgroup meeting is scheduled for May 6th at 2:30 p.m. ET.
* Visit the T&C Subgroup website [here](https://www.nist.gov/itl/applied-cybersecurity/nice/about/working-group/training-and-certifications-sub-working-group).

1. **Workforce Management**

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

* Work continues on creating guidance for Human Resource professionals. The subgroup has narrowed down the areas of concern, including bias in hiring, lack of clarity in job descriptions, and lack of standardization in the language of cybersecurity across platforms. The next step is to compile these topics in a one-page document. There continue to be biases – gender, age, diversity, for example – in the hiring process. The subgroup hopes to open up doors for candidates who might have the right critical skills but are not perceived to have the right background. There has been a lot of interaction on the project, and they want to make sure it’s a transparent process.
* The next Workforce Management Subgroup meeting is May 21st 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).

1. **Project Progress Reports**

### **NICE Conference and Expo 2020**

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

* Save the date for the 11th annual NICE Conference and Expo, November 16-18, 2020, at the Hilton Atlanta Downtown, Atlanta, Georgia. Randy noted that planning remains on track, but they are constantly watching the crisis to see if anything will have to be adjusted.
* A block of rooms at the Hilton Atlanta Downtown has been made available for online reservations, and cancellation is permitted up to about one week before the conference.
* Conference organizers launched the Georgia Consortium, which extended invitations to about nine colleges and universities to support the conference through marketing and to engage in conference activities. Student scholarships are going to be made available for the conference.
* The [call for proposals](https://niceconference.org/proposals) will remain open through May 31. The committee is looking forward to a diverse set of proposals on success cases and best practices.
* The conference theme is “New Decade, New Solutions: Meaningful Actions for a Cybersecurity Workforce,” and the featured tracks are:
  + Career Discovery
  + The Talent Lifecycle
  + The Learning Ecosystem
  + Effective Leadership
* Feel free to email questions directly to [info@niceconference.org](mailto:info@niceconference.org)
* Find out more [here](https://niceconference.org/).

1. **NICE K12 Cybersecurity Education Conference**

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

* Save the date for the annual NICE K12 Cybersecurity Education Conference, December 7-8, 2020, at the Marriot St. Louis Grand in St. Louis, Missouri. Planning remains on track, and Felicia said the outlook in Missouri is very good.
* A block of rooms at the Marriot St. Louis Grand has been set aside at a government rate, and reservations can be made online. Conference organizers expect the rooms to sell out.
* Bill asked about any plans to accommodate potential participants who face challenges as the economy begins to ramp back up. Felicia said they are keeping a close eye on the situation and will make adjustments as needed.
* Pre-conference workshops will be held just prior to the conference on Saturday and Sunday, December 5-6.
* The call for proposals is open through June 12th.
* The conference theme is “Expanding the Gateway to the Workforce of the Future,” and there will be five featured tracks.
* Feel free to join the [mailing list](mailto:Conference@ikeepsafe.org).
* See attached presentation and find out more [here](https://www.k12cybersecurityconference.org/).

1. **CAE Community**

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

* The CAE Symposium will take place November 19-20, following the NICE Conference.
* Registration and the call for proposals will open May 15th.
* Comments or questions can be directed to [Anastacia Webster](mailto:anastacia.webster@csusb.edu).
* Find out more [here](https://www.caecommunity.org/).

1. **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.
* Because of the pandemic and the ongoing distance learning environment, the project has seen a sudden burst of new educator sign-ups. James noted that the project has always been focused on providing this kind of content.
* The project team is working on platform updates and they plan to provide labs in addition to NICE challenges.
* Work done in conjunction with NICERC and the New Mexico Institute of Mining and Technology continues, and a challenge will be deployed over the next couple of months.
* Progress continues on work role assessment challenges, which assess a personal ability to perform tasks within a single work role. So far, they have developed several roles and currently are in the process of developing one for database administrator.
* Find out more [here](https://nice-challenge.com/).

1. **Summary of Action Items**

* Bill noted that the [chat window](https://nistgov.sharepoint.com/:w:/r/sites/NICEProgram/NICEWG/_layouts/15/Doc.aspx?sourcedoc=%7BF7908D1C-1150-4F06-865E-8B158A7971EE%7D&file=NICEWG%20Chat%20Log%204_22_20.docx&action=default&mobileredirect=true) was interesting; we’re glad that there is a passion, and these are questions people want answered. Keep asking those questions and drive toward actions. We’re grateful for your time with us today. Thank you for pushing to help our nation develop the cybersecurity workforce it needs. Stay safe and have a good evening.
* 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, May 27, 2020