



NSA/DHS Centers of Academic Excellence in Cybersecurity

COMMUNITY QUARTERLY

Quarterly Newsletter

Discovering and discussing the ever changing landscape of Cyber Security Education for NSA Centers of Academic Excellence designees.

Winter 2019 | Issue 3



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Newsletter created by the CAE in Cybersecurity Community in Collaboration with the CAE-CD Program Office.



Celebrating 20 Years of Academic Excellence

Winter 2018 Edition

The CAE-CD Program Office, in collaboration with the CAE in Cybersecurity Community, created the Community Quarterly to inform members of the community of past and upcoming events. All materials in this publication were produced by the CAE-CD Program Office, the CAE in Cybersecurity Community, or authorized contributing authors.

Community Spotlight

Happy 20th Anniversary CAE Program

A Look Back Over the Years

In response to the need for improved cybersecurity education and training, in 1999, NSA launched a program under which U.S. colleges and universities could be granted a designation known as the Center of Academic Excellence in Information Assurance Education. That means, that this year the CAE program is celebrating its 20th anniversary!

In May 1999, NSA designated seven institutions. James Madison University, George Mason University, Idaho State University, Iowa State University, Purdue University, University of California at Davis, and University of Idaho were instrumental in developing information assurance (now cyber) curriculum in its infancy. Textbooks had yet to be written on the topic, so these first seven schools formed a bond and shared resources to begin building a community that has grown to 266 schools across the country. Congratulations to these institutions!

Over the years, the CAE Program Management Office has undergone many enhancements in order to keep up with the cyber landscape. Some of the more notable changes include the introduction of the DoD Information Assurance Scholarship Program (now called the Cyber Scholarship Program), the addition of DHS as a partner and the addition of the Research and the Two-Year Education (now the Associates) designations.

The Department of Defense Information Assurance (now Cyber) Scholarship Program was created in 2001. It was intended to provide scholarship grants to CAE-designated schools to encourage qualified students attending those schools to start their careers at the Department of Defense. Similar to the National Science Foundation's CyberCorps scholarship program, CySP is scholarship-for-service, allowing students to pay back their scholarship with equivalent service. Since its inception in 2001, DoD CySP has provided over \$92 million for scholarships and education capacity, and supported 686 scholars at 105 CAE-CD institutions. The program continues to be administered by

the CAE Program Management Office and overseen by the DOD Chief Information Officer.

In 2004, the Department of Homeland Security joined NSA as a partner to help oversee the Program. Since they have joined us as a partner, they have added funding, expertise and other resources to enhance the CAE programs.

In 2008, we added the CAE in Research (CAE-R) designation to engage academia in much needed research solutions for securing critical information systems and networks. The CAE-R designation is intended to proactively increase our understanding of robust cyber defense technology, policy and practices. Institutions designated as a CAE-R must be regionally accredited and highly rated according to the Carnegie Foundation Classification system. As of 1 September 2019, there are 73 institutions in 35 states holding the CAE-R designation.

In 2010, we added the Two-Year (2Y) Education designation. The addition of this CAE2Y allows regionally accredited two-year community colleges, technical schools, state or federally endorsed Cybersecurity training centers to be designated. Adding this designation answered the growing trend of students starting their academic careers in 2Y institutions or those wishing to re-train in a cyber-field. As of 1 September 2019, there are 78 institutions in 33 states holding the CAE-2y designation.

Our most recent enhancement, the shift to the CDE Associates, Bachelors, Masters, and Doctorate designation levels and update of Knowledge Units was needed to maintain robust and rigorous cyber defense academic requirements, while expanding opportunities for schools to develop diverse and unique programs of study. Further, updating the KUs allowed for closer alignment with the NICE Cybersecurity Workforce Framework (NIST SP800-181), making it easier for other institutions, industry, government, and potential employers to share and compare information. With the introduction of non-technical and technical core KUs, schools are now able to align their programs with KUs that best fit their existing curriculum, helping to strengthen the multidisciplinary aspect of the cyber field. And finally, as with any updates, during this shift, the CAE-CD PMO was able to tighten up and strengthen the KUs, eliminating duplicative topics within KU and adding more content where needed.

As of January 2019, there are 266 designated institutions across 47 states, the District of Columbia, and Puerto Rico. Many of our designees hold multiple designations; 44 hold both CAE-CDE and CAE-R designations, 6 hold both CAE-CDE and CAE in Cyber Operations (CAE-CO), 3 hold CAE-R and CAE-CO, and 9 hold three designations: CAE-CDE, CAE-R and CAE-CO. Though the program has evolved through the years, our focus has always been and will continue to be to promote higher education and research in

cyber defense and produce professionals with cyber defense expertise in order to reduce vulnerabilities in our national infrastructure.

This article was written by the CAE-CD Program Office for distribution in the Community Quarterly. For questions regarding this article, please contact askcaeiae@nsa.org.





CENTER FOR **CYBERSECURITY**
AT THE UNIVERSITY OF WEST FLORIDA



2019 CAE EXECUTIVE LEADERSHIP FORUM

April 24-25, 2019 | Pensacola Beach, FL

Cybersecurity innovation through academic,
industry and government collaboration.

Register at
uwf.edu/elf

CAE-CD Program Office Activities

2018 Executive Leadership Forum

Invite Your Campus Leadership

Please join us at the CAE Executive Leadership Forum (uwf.edu/elf) on April 24-25, 2019, on Pensacola Beach, Florida. The forum unites executive leadership from academia, industry and government to seek collaborative strategies and solutions to advance cybersecurity. The forum is sponsored by the NSA/DHS National Centers of Academic Excellence in Cybersecurity Program (CAE-CD and CAE-CO).

The forum is hosted by the Center for Cybersecurity at the University of West Florida, a university currently designated as a CAE-CD and the CAE Regional Resource Center (CRRC) for the Southeast region.

The Executive Leadership Forum is intended for

executive leaders. Should your President or Chancellor be unable to attend, we will welcome an executive from your institution (Dean or higher) to represent your institution.

The executive leader or designee will receive complimentary registration. Additional representatives, including the CAE principal investigator, are invited to attend with their executive leader at the standard registration rate.

For more information, or to register your leadership, please go to uwf.edu/elf. If you have questions regarding this event, please contact elf@uwf.edu.



April 24-25

Community Activities

CAE in Cybersecurity Symposium

On November 8th and 9th 2018, the Centers of Academic Excellence (CAE) in Cybersecurity Community met in Miami, Florida for our 5th annual Symposium. The symposium enables the community to assemble once a year to discuss issues unique to our community. The program includes updates from agencies involved with the community, fastpitch talks, and research presentations from members of the community.

The symposium began with a brief overview by Dr. Vincent Nestler of California State University, San Bernardino (CSUSB) of our community activities for the past year as well as planned activities for the coming year. Following the overview, Lynne Clark, Chief for the CAE in Cyber Defense Program Management Office, led the community discussion regarding changes in the CAE Cyber Defense (CAE-CD) Program for the coming year. Following this overview we also heard updates from Latasha McCord, Education Program Analyst for the Department of Homeland Security (DHS); Rodney Petersen, Director of the National Initiative for Cybersecurity Education (NICE); Susanne Wetzel representing the National Science Foundation (NSF); and Carolyn Renick from the Office of Apprenticeship at the United States Department of Labor.

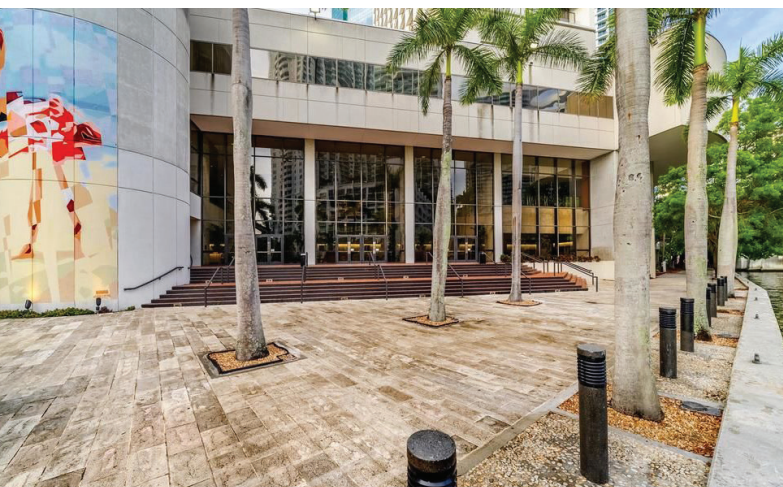


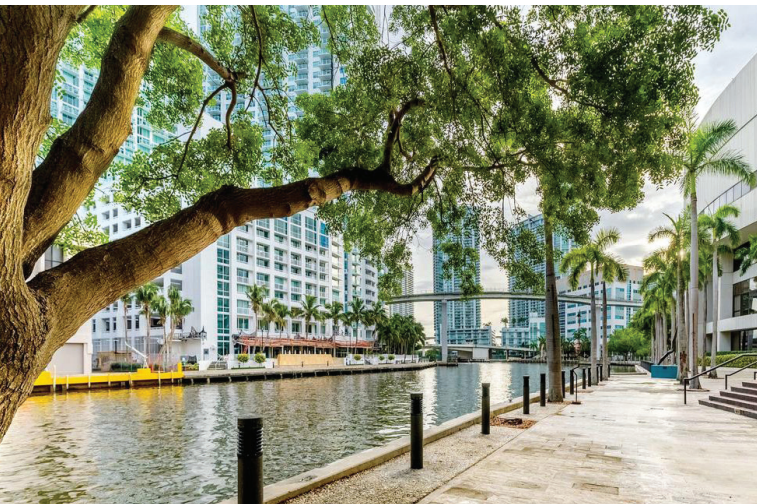
After the program updates, the community heard from Stephanie Rhoten from CSUSB about the CAE Virtual Career Fair, sponsored by CyberWatch West and the National Science Foundation. The virtual career fair brings together students/alumni from across the nation and gives them the opportunity to interact with employers in a virtual environment. This year 171 schools with a total of 1,254 attendees participated in the career fair. Survey data indicates the event was well received by students/alumni and employers.

Next, the community heard from our CAE Spotlight Institution. Each year, the community highlights one CAE designated institution that exceeded expectations providing resources, programs, or workshops to the community. This year, the community is recognizing Dakota State University (DSU). DSU has long been a leader in the community acting as a CAE Regional Resource Center (CAE CRRC) for the North Central Region. However, DSU also provided all CAE designated institutions with the opportunity to participate in faculty professional development workshops. Wayne Pauli from Dakota State University spoke about the program at Dakota State University as well as its role as a CRRC. He also spoke about the Professional Development Workshop hosted by Dakota State, which invited 100 faculty from 28 states and Puerto Rico to complete one of four workshops (Cellular and Mobile Security, Software Exploitation, Incident Response, and Malware Analysis). He also listed off the dates for the 2019 series of professional development workshops.

Following the CAE Spotlight presentation, the community split off into breakout rooms to listen to research presentations from members of the community. A full list of

...continued on page 6





CAE-CD Program Office Activities

2018 Annual Report Deadline

The Annual CAE in Cybersecurity Report is due **February 2nd, 2019**. Please note that the annual report is not available on the website. This year, the PI or POC on the project was sent a link from an independent contractor working with the CAE in Cybersecurity Community.

This link will allow you to download the PDF requirements for the annual report. This link is also customized to your unique email address, which means you will be able to enter and leave the report until you submit the report. Once you submit, you will **not** be able to return to the report form.

If you have not received your annual report link, or have questions about the annual report please contact info@caecommunity.org.



the presentations as well as presentation materials is available on the CAE in Cybersecurity Community Website. Research presentations were followed by a working lunch which went over the new CAE in Cybersecurity Community Website as well as resources that are available to the community from CAE National Resource Centers (CNRC) as well as CRRCs.

Later in the afternoon, the community heard fastpitch presentations from members of the community. Presentations range in topics from challenges facing the community, to successful programs across the nation. These presentations are available on the CAE in Cybersecurity Community Website. Following these presentations, Dr. Nestler led the community in a discussion on important issues in the community. Issues ranged from how to be a successful member of the community to what the community needs to be successful.

This year, the community planned a two day event where special interest groups could reserve rooms to host meetings on Friday. On Friday, November 9th, the community heard from the CAE-CD Program Office on the Cybersecurity Scholarship Program as well as Peer Review/Mentor Training. In addition, the NICE Challenge Project hosted a user meeting which covered updates and usage. The CAE in Cybersecurity Community also hosted an in depth training on the new website. All materials for the symposium are available on the CAE in Cybersecurity Community Website at <https://www.caecommunity.org/content/symposium-presentation-archive>.

The CAE in Cybersecurity Community would like to thank everyone for their participation in the symposium. We look forward to seeing you at next year's symposium in Phoenix, Arizona.

This article was prepared by the CAE in Cybersecurity Community for distribution in the Community Quarterly. If you have questions or comments regarding this issue, please contact info@caecommunity.org.

Community Activities

Resources Available to the Community

The CAE in Cybersecurity Community website is updating the resources available to the community. Our most recent changes include the addition of CAE Tech Talks, the CAE Grants Showcase Database, as well as the Symposium Presentation Archive.

In November 2018, the CAE in Cybersecurity began hosting the recordings for CAE Tech Talk, hosted by Capitol Tech. You can find recording from CAE Tech Talk at <https://www.caecommunity.org/content/cae-tech-talk-resources>.

The community website also recently launched the CAE Grants Showcase Database. This database provides a list of some of the grants from institutions within the community as well as lists the person of contact and descriptions for each grant. You can find the grant showcase at <https://www.caecommunity.org>.

Another addition to the community website is the Symposium Presentation Archive. The Symposium Presentation Archive lists all of the presentations from the CAE in Cybersecurity Symposium. You can view the archive and download presentation materials at <https://www.caecommunity.org/content/symposium-presentation-archive>.

Several minor adjustments have also been made to the website including a simplified time zone for scheduling events, a simpler workbench user interface, as well as a help page to access the NIETP CAE website which you can find at <https://www.caecommunity.org/content/nietp-common-warnings-errors>.



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CAE TECH TALK RESOURCESHome / Resources / CAE Tech Talk Resources




CAE Tech Talk
National Centers of Academic Excellence

CAE Tech Talk is a live, real-time, online, academic forum where members of the CAE community give technical presentations on cybersecurity related topics to the rest of the CAE community. We are a warm group of people that want to share knowledge with each other. Anyone in the CAE Community (professors, students, government members) can present a topic.

CAE Tech Talks are normally held on the third Thursday of each month during the Fall and Spring semesters. Presentations are conducted live over the Internet using an online delivery platform (Adobe Connect) at https://capitol.adobeconnect.com/cae_tech_talk/

The entire CAE community is invited to attend the live presentation.

Tech Talks Recordings and Presentations

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SYMPOSIUM PRESENTATION ARCHIVEHome / Resources / Symposium Presentation Archive

Symposium Presentation Archive

Each year the CAE in Cybersecurity Community gathers to discuss updates in the community. On this archive page, you will find the member presentations, fastpitch, and general session presentations. Below, you will find a complete list of presentations from this event.

If you have any problems accessing content or questions, please contact info@caecommunity.org.

2018 CAE in Cybersecurity Symposium

Fastpitch

General Program

Presentations

2017 CAE in Cybersecurity Symposium

Designated Institutions

2018 CAE in Cybersecurity Designated Institutions

Each year the CAE-CD Program Office designates institutions that meet the rigorous curriculum and staffing requirements as Centers of Academic Excellence (CAE) in Cybersecurity.

The following institutions received their CAE-CD or CAE-R designations. Designated institutions were recognized at either the National Cyber Summit Conference in June or the National Initiative for Cybersecurity Education Conference in November. Designations will be noted with the institutions.

American Public University
Augusta Technical College
Calhoun Community College
Clemson University
College of Southern Nevada
Community College of Rhode Island
Cypress College
ECPI University
El Paso Community College
Fayetteville Technical Community College
Florida State College at Jacksonville
Grand Rapids Community College
Green River College
Indian River State College
Laredo College
Leeward Community College
Lehigh Carbon Community College
Liberty University
Lincoln Land Community College
Long Beach City College



Marquette University
Metropolitan Community College
Metropolitan Community College, Kansas City
Northeast Community College
Oakland University
Pennsylvania Highlands Community College
Pikes Peak Community College
Portland Community College
Regent University
Roosevelt University
Southern Utah University
Texas State Technical College in Harlingen
University at Albany, State University of New York
University of North Carolina, Wilmington
University of Virginia
Valencia College

Congratulations to the newly designated CAE in Cybersecurity institutions and welcome to the CAE in Cybersecurity Community! To learn more about CAE designated institutions, please visit <https://www.caecommunity.org/content/cae-institution-map>.

Community Achievements

2018 Year in Review

A Phenomenal Year of Excellence and Growth

100

Faculty
Attended DSU's
Development Workshops



92

Mentees in the Application
Assistance Program

49

Mentees in Program
Development



266

CAE Designated
Institutions

As of December 31,
2018, there are a total
of 266 CAE Designated
Institutions with even
more on track for 2019
designation.



15+

Regional
Workshops



1,189

Zoom Meetings

1,649

Total Participants

Each CNRC/CRRC has a Zoom account provisioned for up to 100 concurrent users. Contact your CNRC/CRRC to get involved in regional monthly meetings today.

1,071

Users on the CAE in Cybersecurity
Community Website

Since opening our website to accommodate all users in June 2018, membership on the community website has grown past 1,000 users, with the majority of new users coming from industry and students from academia.



1,198

Students/Alumni Participated in the
CAE Virtual Career Fair

Students from CAE Designated Institutions were invited to participate in the CAE Virtual Career Fair. Students from 176 CAE Designated Institutions.

Upcoming Events

9-11
JAN

Centers of Academic Excellence Grants Showcase on Capitol Hill

Time: TBA to Participants Directly

The CAE-CD Program Office is hosting a grants showcase on Capitol Hill. The grants showcase will highlight some of the programs in the CAE in Cybersecurity Community to members of Congress.

For more information, please visit: <https://www.caecommunity.org>

Women in Cybersecurity Conference in Pittsburgh, Pennsylvania

Time: 8:00am-5:00pm

Women in CyberSecurity (WiCyS) is the premier organization with national reach dedicated to bringing together women in cybersecurity from academia, research and industry to share knowledge, experience, networking and mentoring. **For more information, please visit:** <https://www.wicys.net/>

29-30
MAR

24-25
APR

Executive Leadership Forum Pensacola, Florida

Time: 8:00am-5:00pm

The CAE-CD Program Office is hosting a grants showcase on Capitol Hill. The grants showcase will highlight some of the programs in the CAE in Cybersecurity Community to members of Congress.

For more information, please visit: <https://www.caecommunity.org/news/2019-cae-executive-leadership-forum>



Upcoming Events

**5-7
JUN**

National Cyber Summit in Huntsville, Alabama

Time: 8:00am-5:00pm

Join academics and professionals in the field of cybersecurity as they discuss cyber training, education, and workforce development.

For more information, please visit: <https://www.nationalcybersummit.com/>

CAE Forum Virtual Event

Time: Third Wednesday of Every Month @ 1:10pm Eastern Time

CAE Forum is a live, online webinar where members of the CAE in Cybersecurity Community can give non-technical presentations to the community. **For more information, please visit:** <https://www.caecommunity.org/content/cae-forum-resources>

**Winter
2019**

**Winter
2019**

CAE Tech Talk Virtual Event

Time: Third Thursday of Every Month @ 1:10pm Eastern Time

CAE Tech Talk is a live, online webinar where members of the CAE in Cybersecurity Community can give technical presentations to the community. **For more information, please visit:** <https://www.caecommunity.org/content/cae-tech-talk-resources>

***Stay current on all Community events by checking out the
community calendar at
<https://www.caecommunity.org/content/calendar>.***

The CAE-CD Program Office uses the contact information uploaded into www.iad.gov/nietp to send out routine reminders, solicitations, and event invitations. Please ensure that you have updated your information with the correct contacts from your institution.

CAE-CD Program Staff Contacts

- **Lynne Clark**
Chief, NSA/DHS National Centers of Academic Excellence in Cyber Defense Program Office
- **Jill Curcio**
CAE Events and Communications Lead
- **Lynn Hathaway**
Centers of Academic Excellence Cyber Defense Program Manager
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NSA/DHS Centers of Academic Excellence Cyber Defense Program Manager
- **Lorie Pfannenstien**
NSA/DHS National Centers of Academic Excellence in Cyber Defense Program Manager
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CAE SEAL Program Manager
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DHS Program Manager for Cybersecurity Education & Awareness Branch

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CAE in Cybersecurity
Community in collaboration
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Contact

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- askcaei@nsa.gov
- <https://www.iad.gov/NIETP/>

CAE Community Office

- info@caecommunity.org
- <https://www.caecommunity.org>

To submit ideas, stories, photos, events, feedback, or more, please email us at info@caecommunity.org.