



## Announcement

### ***2019 FISSEA EDUCATOR OF THE YEAR AWARD***

Mike Petock, EOY from last year to introduce this year's EOY.

*This year's winner of the Educator of the year awards goes to EARL FRED BISEL, JR. from the Naval Information Warfare Center – Atlantic. He is a Scientist and Cisco Academy Expert Instructor nominated by colleague Kamau Buffalo.*

*The nominating committee, led by Dr. Loyce Best Pailen, Director for the Center for Security Studies University of Maryland University College, consisted of evaluators; FISSEA Board members Susan Hansche and Carl Willis-Ford; Dr. Diane Cuniff-O'Grady, Director-Maryland Center for Computing Education; and James Robertson, Undergraduate School, Program Director, UMUC.*

*(Here is the nomination form if you want to say more about EARL.)*

**Name of Winner:** Earl Fred Bisel, Jr.

**Employing Organization:** Naval Information Warfare Center (NIWC) Atlantic

**Position and/or Title:** Scientist and Cisco Academy Expert Instructor

I nominate Mr. Earl Fred Bisel Jr., Scientist and Cisco Academy Expert Instructor, Naval Information Warfare Center (NIWC) Atlantic for FISSEA Educator of the Year:

Naval Information Warfare Center (NIWC) Atlantic launched the Cyber Education and Certification Readiness Facility (CERF) in Building 3147, Charleston, SC on April 25, 2017. Mr. Bisel was recognized by the Cisco Networking Academy as one of the top 10 percent of instructors globally in student feedback and performance. He led a team that pulled together a state-of-the-art training facility in approximately one year's time. CERF is a collaborative education environment created to bolster NIWC Atlantic's success in mastering the cyberspace domain. Using a multitude of funding sources, refurbished Government equipment and employee labor in limited supply, CERF became a key resource in gaining fully provisioned and skilled cyber acquisition professionals to meet challenges in our Fleet information systems.

CERF is one of four Department of the Navy (DON)-credentialed Cisco Academies, managing more than 300 user accounts for face-to-face workforce development. In May 2018, the Command was congratulated for five years of active participation and service in the Cisco Networking Academy program. CERF lab instructors recently began the process to become the first Federal agency to become a Juniper Network Academic Alliance, with the first course scheduled onsite. Additionally in 2018, Mr. Bisel briefed the United States Marine Corps leadership on CERF capabilities leading to additional cyber training opportunities for the team in Hawaii and Okinawa. The training will support cyber acquisition strategies and the curriculum will include Cisco, Red Hat, and Windows SVR 2016 onsite training. Currently four classes are scheduled to reach a total of 80 students, representing a cost avoidance of \$140,000.

The CERF laboratory was assembled in a little more than a year and furnished with excess Government equipment versus a commercial off-the-shelf product. The lab contains workstations for 14 students and includes a total of 170 laptops and PCs, 54 servers, 84 routers, 315 switches and four Sans -- all reused Government equipment representing a total cost avoidance of \$1,100,000 if purchased new. The cost to attend comparable, in-person commercially-provided training for networks and exam prep is roughly \$2,000-\$3,500 per person per class. From July 1, 2017 to June 30, 2018, CERF conducted 24 week-long classes with 366 attendees yielding a cost-savings of roughly \$1,050,000 for a grand total of \$2.1M in cost avoidance to the Command. The range of courses included Cisco Academy, Software Defined Radio, Risk Management Framework, Software Defined Network and Red Hat. CERF labs in Norfolk, VA, and New Orleans, LA, when fully staffed, could make the total cost avoidance as high as \$6 to \$10 million.

In staffing the CERF, Mr. Bisel worked with the New Professional Coordinator to schedule rotational opportunities for recent college graduates to further develop their system architecture and information security knowledge. Students participate in classroom deliveries and take on the responsibility to re-baseline routers and servers used in the classroom for first-hand experience with software and hardware configurations. Although now physically located only in Charleston, the CERF is open to Government and military personnel at all sites (Charleston, Norfolk, National Capital Region, New Orleans, Tampa, and other locations). CERF labs in Norfolk, VA, and New Orleans, LA, are scheduled to

be up and running this fall. Mr. Bisel ensures only the most qualified instructors are passing on their knowledge of networks to students. The curriculum is divided according to subject matter and each instructor drills down on a few chapters to increase curriculum knowledge and perfect their teaching material. Mr. Wesley Jones, NIWC Atlantic employee and Cisco Certified Network Associate (CCNA) Instructor, said, "I find that helping others learn inherits growth and sparks challenge."

Mr. Bisel combines practicality with ingenuity to ensure the CERF provides fast-paced, practical, in-house training on networks and operating systems for job enhancement and to prepare NIWC Atlantic employees for various information technology (IT) certification exams. Internal and external instructors are experienced, certified, and use vendor-developed curricula. The CERF non-networked training lab contains laptops and monitors, racks of servers, routers, switches and cables for a maximum of 14 students per course. Each student has direct access to equipment needed throughout the course. Many courses also include use of Netlab, a simulation tool available on the Research Development Testing and Evaluation (RDT&E) network.

The overall cost for each class is significantly less than taking a comparable course from an outside vendor. The CERF provides an opportunity to build a more technically proficient certified workforce. All employees are urged to visit and take advantage of the resources. Prior to the creation of CERF, employees attended external vendor-led training and often had to learn complex IT concepts via PowerPoint or self-directed training. In addition, valuable time and Command dollars were lost with vendor training due to travel time and classroom orientation.

Most importantly, the CERF facility provides the means to greatly increase the number of technically proficient and IT-certified personnel. Mr. Bisel organizes regular week-long classes on popular networking tools (Cisco, Juniper and Red Hat) facilitated by himself and on-site instructors Mr. Wesley Jones and Kamau Buffalo. "Here, students know they are safe. This lab is a risk-free playground for learning networks which makes for more nuanced learning," said Bisel.

A key component of the CERF laboratory is versatility. Each workstation houses a resource folder with configuration guides for students who prefer self-directed learning. During unscheduled time, students can come to the lab and use the equipment to reinforce concepts conveyed during formal training. All resources and refresher courses are available virtually to students upon course completion. In addition, the instructors compiled an extensive reference library for all users. Mr. Jonathan Hite, NIWC Atlantic computer engineer and former student, said "I've been studying for the exam on my own, but this course has been a great refresher. There are multiple ways to get the same answer, so it's interesting to see Fred's way of doing things." As a direct consequence of multiple streams of delivery, CERF is accomplishing NIWC Atlantic's strategic goal of building a more technically proficient workforce. Acknowledgement as the FISSEA Educator of the year would recognize Bisel's ingenuity and creativity through creation of this state-of-the art facility.

He has received no award compensation for these efforts.

**Kamau Buffalo**  
*(Person making this nomination)*

**5/20/19**  
*(Date)*