



Presidential Cybersecurity Education Award Nomination

Nominee's Name: Kristina L. Rice

Level of education taught: Secondary
Educator's state: Commonwealth of Virginia
Educator's city: Spotsylvania County
Educator's work name: Spotsylvania High School
Educator's work email address: krice@spotsylvania.k12.va.us
Educator's work contact number: 540-582-3882

Nominator: Dr. David Raymond, Director of the Virginia Cyber Range and the U.S. Cyber Range of Virginia Tech
Email address: raymond@vt.edu
Nominator's work phone number: 540-231-3809
Nominator's cell number: 540-239-1450

- 1 - Virginia Education Code definition of secondary education means a public school with any grades 9 through 12. [8VAC20-131-5. Definitions. - Virginia Law](#)
- 2- [Spotsylvania High School takes 2nd place in state in the U.S. national high school cybersecurity championships](#)
- 3- [Kristi Rice Cyber Hero](#)
- 4- [Spotsylvania High girls are a force in cybersecurity](#)



Superior Educator Accomplishment

The year 2020 was an unusual year for educators and students alike, but this did not dissuade Kristi Rice from finding new ways to expand her reach and engage students in cybersecurity. She quickly adapted to changing circumstances and moved her after-school cybersecurity Cyber Knights program online, while increasing student participation by an astounding 700%. She also added two new cybersecurity courses to her school's course catalog to provide a pathway for students to continue their cybersecurity studies (see Table 1: Student Participation below).

Kristi has shown her commitment to increasing participation from underrepresented groups in cybersecurity, particularly women. In 2020, her all-girls Cyber Knights team placed 2nd in Virginia out of 160 schools in the Girls Go Cyberstart National Championships₂ and is among the small number of teams advancing to the nationals in April 2021. Kristi understands that representation is important and leading by example is the way to show women can be successful in cybersecurity. She has taken every opportunity to expand her own knowledge by engaging in a variety of activities outside the classroom. Kristi is co-chair of the Virginia Cyber Range K-12 Advisory Board to assist educators across Virginia in the implementation of their own cybersecurity curricula. Additionally, she collaborated with another educator in Loudoun County, VA to create a state-wide pacing guide for Virginia cybersecurity educators teaching the Cybersecurity Fundamentals course. The pacing guide is designed to provide a digestible schedule for a year-long curriculum that maps to Virginia competencies as well as the NICE Cybersecurity Workforce Framework knowledge, skills, and abilities. The pacing guide is adaptable to other educators outside of Virginia, and has been shared widely across the country. Kristi also presented and shared her guide at the 2020 Virginia Cybersecurity Education Conference, and at the NICE K-12 Cybersecurity Education Conference. In June, Kristi helped to lead a two-week Cybersecurity Workshop sponsored by the Commonwealth Cyber Initiative and the Virginia Cyber Range, serving as a pedagogical consultant, presenting teaching pacing guides, and providing advice and assistance to the 50 educators enrolled in the program.

Kristi understood that professional development opportunities were limited for educators due to COVID19 and created an online professional development series called HackItUp with Kristi and Friends through Facebook. The purpose of the group was to provide peer mentorship during COVID19 and provide cybersecurity resources and lessons to educators across the country. Kristi's efforts have been recognized by her peers and students and she was named a CyberHero by SynED for her efforts to expand cybersecurity education in rural Virginia₃.



Table 1: Student Participation

Accomplishment	Inaugural Year 2018 - 19	Current Year 2020 - 21	Total Since 2018 Successful Growth Attainment
After-School Club	31	153 Students	287 Students Served Increase of 769.697%
# Course Offerings	1 in 2018 - 19	3	7 Sections of 3 Courses
# Students in Courses Cyber Academic Pathway 3 Years in Developing and Expanding Pathway	2018-19 Inaugural Year 70 Students Cybersecurity I	CTE Three-Year Pathway 165	335 Students Served Increase of 378.571%

Academic Achievement by Students

Over the past three years, students under Kristi’s direction have shown success in cybersecurity competitions. In her first year of teaching, Kristi’s students placed 4th in Governor McAuliffe’s NSA Day of Cyber Challenge. Notably, all of Kristi’s students-representing diverse academic levels-have achieved 100% graduation rates, 100% college, military, and career readiness attainment, and 98.2% industry certifications. Six of her students have pursued information technology careers in the military.

Kristi’s impact and influence on her students is clear as current and former students praised her as an educator that has propelled cybersecurity as a viable career opportunity for her students. There is no greater measure of her impact on students than their own ambition to pursue a cybersecurity career.

Melia Smith, Senior at Spotsylvania High School:

“Without Mrs. Rice, I never would have considered cybersecurity as a career option or developed my aspiration to help protect others from cyber attacks. She has provided me with many opportunities and real-world experiences to expand my knowledge in the cyber field, which will benefit my future in college and beyond.”

Rachel Detore, Former Student studying Cybersecurity at St. Francis University:

“Mrs. Rice is an amazing teacher who taught me a lot of important things about cybersecurity. She helped me to realize how much I want to pursue cybersecurity in college and as a career. We even did many things in class that helped improve our resume like Girls Go Cyber Start.”



Katie Sale, Junior at Spotsylvania High School:

“I wanted to study Psychology in college and become a Psychologist. Because of Mrs. Rice and her class, I have fallen in love with cybersecurity and now would like to become a Cyberpsychologist, which is a new field of cybersecurity and it is to conduct research regarding human-machine interaction.”

In 2019, Kristi’s Cyber Knights competed in the Girls Go CyberStart competition and advanced to the nationals. Gov. Ralph Northam recognized Spotsylvania High School for having the highest number of students, 108, participating in the CyberStart competition⁴. As shown in Table 2: Student Achievement, Kristi has increased the number of students participating in cyber competition teams by 36% with 9 students advancing to the national championship in April 2021. Additionally, the number of students receiving the Microsoft Technology Associate certification increased by 145% in 2020.

Table 2: Student Achievement			
Accomplishment	Inaugural Year 2018 - 19	Current Year 2020 - 21	Total Since 2018 Successful Growth Attainment
# Students in Cyber Competition Teams	121 Students compete in Girls Go CyberStart, 4 Advanced to National Championship Round	165 Students participating in CyberStart America, 9 have already Advanced to National Championship Round in April 2021	Increase of 36.3636% of students
# of MTA Security Fundamentals Certifications earned by students in the Cybersecurity Fundamentals course	55 of 70 students earned the MTA Security Fundamentals Certification	2019-2020 115 of 135 students earned the MTA Security Fundamentals	Increase of 145.4545% of students.

To: Presidential Cybersecurity Education Award Selection Committee
From: Alan Paller, President, SANS Technology Institute
Subject: Support for the nomination of Kristi Rice for this year's Presidential Award
Date: January 18, 2021

In its first year the Presidential Cybersecurity Education Award quickly became recognized as the premier award for recognizing excellence in developing the future cybersecurity talent on which our nation's economic and military security depends. The first two winners were good choices because of the spectacular programs they developed and taught. I am writing to ask that this year you consider recognizing Ms. Kristi Rice, the one cybersecurity teacher in the US who has, through innovation, teaching excellence, inspiration and leadership, done more than any other U.S. high school teacher to bring more young women into the field of cybersecurity.

I am the president of SANS, the largest cybersecurity college and training institution in the United States with more than 174,000 alumni now serving in professional cybersecurity roles at the U.S. military, the National Security Agency, the FBI, and more than 3,000 other government agencies, businesses, hospitals and schools across the United States. A very challenging problem our field faces is that we are missing more than half the talent because women rarely show up. In our intrusion detection classes, for example, 95% or more of the students are men. Yet, two of the most impressive intrusion detection analysts the US government has ever employed are named Vicki and Judy. In other words, despite great aptitude, the high school experience for young women seems to push them away from networking and cybersecurity classes. By the time they get to college they just don't choose to prepare for cybersecurity careers.

Kristi Rice showed the way to solve that problem and triple the number of young women in high school cybersecurity classes, first in her school in Spotsylvania, Virginia, and then by helping other teachers across Virginia and even beyond. She deployed a simulation game in which her students became "cyber protection agents" and solved real cybersecurity challenges ranging from cryptography to programming to web vulnerabilities. She found industry support for prizes for students who did well on the game and her students became so excited that they went out into the school and invited other girls to play. Students who played the game were heard saying things like, "Learning has never been this fun." And "I never knew computer science was so interesting." Her students brought in 112 girls from other classes and as a result, the number of girls in her cybersecurity course tripled. Several of them have already gone on to Virginia Tech and other leading colleges, where they are studying cybersecurity. Her story became a legend in Virginia and this past year, 656 high school girls in 105 Virginia high schools played the "cyber protection agent" game and many are discovering talents they didn't know they had.

And she has not stopped innovating. This pandemic year, Ms. Rice has built resources to help other teachers challenged by remote teaching constraints including a web series with lessons and resources that work well in the remote learning environment and online classes being distributed statewide through the widely respected Virginia Cyber Range.

Thank you for considering this suggestion and please feel free to email me at apaller@sans.edu or call me at 301-520-2835 if you have any questions. I've attached a brief biography at the end.

Best wishes,



Alan Paller
President
SANS Technology Institute
Sans.edu sans.org

About Alan:

Alan Paller founded SANS, a professional cybersecurity training school that trains more than 48,000 cybersecurity technologists each year and is also president of SANS Technology Institute, the nation's first regionally accredited cybersecurity-only college and graduate school. Alan oversees a global program that identifies and celebrates people responsible for remarkable improvement in cyber risk reduction and chairs the annual RSA keynote panel on the "Five Most Dangerous New Attacks." He has testified before the US Senate and House of Representatives and was an initial member of President Clinton's National Infrastructure Assurance Council. He was chosen by OMB and the Federal CIO Council as the 2005 Azimuth Award winner, a lifetime achievement award recognizing outstanding service of a single, non-government person to improving federal information technology. In 2010, the Washington Post named him one of seven people "worth knowing in cyber security." Alan co-chaired the DHS Homeland Security Advisory Committee's 2012 Task Force on Cyber Skills and headed the Task Force on Best Practices in Cybersecurity for the FCC Communications Security, Reliability and Interoperability Council. Earlier in his career Alan helped build one of the first large software companies, took it public, and merged it into a larger company listed on the New York Stock Exchange. He earned degrees in Engineering and Computer Science from Cornell University and the Massachusetts Institute of Technology.

List of Endorsements for Kristi Rice

Alan Paller, President
SANS Technology Institute
11200 Rockville Pike
MD 20852
apaller@sans.edu
301-520-2835

Luke Tucker, Sr. Director of Community
HackerOne
22 4th St 5th Fl, San Francisco, CA
community@hackerone.com
415-891-0777

Chuck Gardner, Ph.D., Director of Curriculum
CYBER.ORG
6300 E. Texas St,
Bossier City, LA 71111
chuck.gardner@cyber.org
(318) 759-1623

Ingrid Burbey, Project Manager, CyberCorps and GenCyber at Virginia Tech
Virginia Tech
1185 Perry Street (Mail Code 0111)
Blacksburg, VA 24061
Montgomery County, VA, 24061
540-320-0789

Stephen Scott Baker, Ed.D., Superintendent of Schools
Spotsylvania County Public Schools
8020 River Stone Drive
Fredericksburg, VA 22407
sbaker@spotsylvania.k12.va.us
540-834-2500

Carol E. Flenard, Ed.D, Deputy Superintendent - Chief Academic Officer
Spotsylvania County Schools
8020 River Stone Drive
Fredericksburg, VA 22407
cflenard@spotsylvania.k12.va.us
540-834-2500

Donna Woods, Chair - Cyber Academic Pathway/Manager of Academic Relations
Canyon Springs High School/SynEd/Cyber-Guild
23100 Cougar Canyon Drive
Moreno Valley, CA 92557
dwoods@mvusd.net
951-488-6128

Teana Fredeen, Operations Manager
synED/Cyber-Guild
2060-D Avenida de Los Arboles Ste 771
Thousand Oaks, CA 91362
tfredeen@syned.org
805.235.3361

Keith F. Wolfe, Executive Director of Secondary Education and Leadership
Spotsylvania County Public Schools
8020 River Stone Drive
Fredericksburg, VA 22407
kwolfe@spotsylvania.k12.va.us
(540)834-2500

Kelly Guempel, Principal
Spotsylvania High School, Spotsylvania County Public Schools
6975 Courthouse Road,
Spotsylvania, VA 22551
kguempel@spotsylvania.k12.va.us
540-582-3882

J. D. Chase, Ph.D., Professor
Radford University School of Computing and Information Sciences
Radford University, Radford VA 24142
jchase@radford.edu
540-320-7482

Shannon Webb, Enterprise Architect
Marine Corps Systems Command
105 Tech Parkway, Stafford, VA 22556
Shannon.webb@usmc.mil
(630) 768-9329

Frank R. Creamer
Chief Warrant Officer 2, Military Intelligence
GEOINT Imagery Technician
198 Yamanga St, BLDG T-101
USARPAC G2 Plans
(808) 787-0570
Frank.r.creamer.mil@mail.mil

Kenneth A. Mitchell,
Global Combat Support System-Marine Corps Enterprise NIPRNET (ISSM)
Marine Corps Systems Command (MCSC)
Logistics Integrated Information Solutions
105 Tech Parkway, Stafford, VA 22556
Kenneth.mitchell1@usmc.mil
703.432.5866

List of Endorsements for Kristi Rice

Deneen L. Hernandez, Forensic Examiner
Federal Bureau of Investigation Laboratory
2501 Investigation Parkway
Quantico, VA 22135
dlhernandez@fbi.gov
703-928-7347

Cornelius J. Coverson Sr., Deputy Commander
US Army 2D Battalion 1st Information Operations Command.
8825 Beulah Road
Fairfax County, Fort Belvoir, VA 22060
Cornelius.j.coverson.civ@mail.mil
703-706-1439

Ahmed Ibrahim, Ph.D, Teaching Assistant Professor
University of Pittsburgh
135 N. Bellefield Avenue
Pittsburgh, PA 15260
aibrahim@pitt.edu
412.624.5015

Nicholas Alan Lemich, Advanced Cybersecurity Lead,
Booz Allen Hamilton: Missile Defense Agency,
Aegis Ballistic Sea-Base Weapon Systems
Naval Support Facility, Avenue D,
Dahlgren, VA 22448
nicholas.lemich.ctr@mda.mil, lemich@me.com
8437352320

Sue Venable-Shelton, CTE Liaison
Spotsylvania County Public Schools, Office of Teaching and Learning
8020 River Stone Drive
Fredericksburg, Virginia 22407
smvenableshelton@spotsylvania.k12.va.us
540-548-4051, ext 5394

Amanda C. Hester, Ed.D Assistant Superintendent for Instruction
Louisa County Public Schools
953 Davis Highway
Mineral, VA 23117
hesterac@lcps.k12.va.us
8045123645

Cassandra Crawford, Principal
Chancellor High School, Spotsylvania Co. Public Schools
6300 Harrison Road

Fredericksburg, Virginia, 22407
clcrawford@spotsylvania.k12.va.us
540.786.2606 ext. 5010

Vicki Snodgrass, Business and Information Technology Teacher
Thomas Walker High School
126 Blue Gray Road, Ewing, VA 24263
vicki.snodgrass@lee.k12.va.us

Stephanie Holt
Program Manager, Business and Information Technology/VBEA Secretary
Fairfax County Public Schools
8270 Willow Oaks Corporate Drive
Fairfax, VA 22031
seholt@fcps.edu
(703) 380-2254 (cell)

Charisse Woodward, VBEA President Business and Information Technology Teacher
Frederick County Public Schools, VA
185 South Warrior Drive
Stephens City, VA 22655
540-869-0060 Ext 85457 (work)

Jessica M. Trent, CTE Teacher/VBEA Board Member
Thomas Walker High School
126 Blue Gray Rd, Ewing, VA 24248
jessicamorrison48@gmail.com
865-216-4522

Ellen Frey, Business & IT Teacher
Independence HS, Loudoun County Public Schools
23115 Learning Circle
Ashburn, VA 20148
Ellen.frey@lcps.org
571-216-2206 (cell)
571-367-4200 (school)

**Hilary Parr, VBEA Longwood Representative/
FBLA Longwood Region Director**
Chesterfield County Public Schools
10101 Courthouse Rd
Chesterfield, VA 23832
hilary_parr@ccpsnet.net
(804) 768-6140 ext. 1917

Rhonda J. Burnette,

List of Endorsements for Kristi Rice

Business & IT Teacher

VBEA Blue Ridge Board Member
Floyd County High School
721 Baker St SE
Floyd, VA 24091
Email: burnetter@floyd.k12.va.us
Phone: 540-745-9450 ext 5433

Sandy Mills, State Specialist

Virginia FBLA
111 Hodges Cove Road
Yorktown, VA 23692
smills@vafbla-pbl.org
540.686.1105

Dr. Brenda D. Long, Executive Director

Virginia Association for Career & Technical
Education
3511 Archer Springs Terrace
Richmond, VA 23235
(540) 760-2504
brendalong73@gmail.com

Current/ Former Student Endorsements

Rachel Detore, Class of 2020

Cybersecurity Major

St. Francis University
117 Evergreen Drive,
Loretto, PA 15940
rx141@francis.edu

Melia Smith, Class of 2021

Commonwealth Governor's
School/Spotsylvania HS
10025 Willow Ridge Way
Spotsylvania, VA 22551
540-424-4532
mksmith-09@spotsylvania.k12.va.us

Katherine Sale, Class of 2022

Spotsylvania HS
3040 Partlow Rd
Partlow, VA 22534
540-846-6051
kssale-09@spotsylvania.k12.va.us