Air Force Association's
CYBERPATRIOT
National Youth Cyber Education Program
presented by **NORTHROP GRUMMAN** Foundation

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Commissioner's Cache

Happy New Year! What a terrific year 2014 was! From a record-breaking number of teams, to a State Round that showcased your awesome talents, this season has been great. Congratulations to all teams that competed in the State Round. You set a high standard for excellence in each tier of the competition.

And now 2015 is here and we have even more challenges and fun planned. Our National Finalists will be decided Jan. 16-18 with the Regional and Category Rounds for high school teams and the Semifinals for Middle School Division teams. Then ALL teams are invited to participate in the standalone Presidents Day Weekend Open in February. Our sponsors Cisco and Leidos will give teams an opportunity to compete in networking and digital forensics as separate competition events. It promises to be a lot of fun.

Thanks to our tremendous Coaches and Mentors for their countless hours of dedication to their teams in 2014. We are looking forward to a great finish of CyberPatriot VII in 2015 and it will all be because of you! And HUGE thanks to our Presenting Sponsor the Northrop Grumman Foundation and our other generous sponsors for their support of CyberPatriot. Without them the program could not exist. With them, CyberPatriot is now THE National Youth Cyber Education Program.

Bernard K. Skoch
National Commissioner
CyberPatriot
Air Force Association

Program Office Bits

Upcoming Round: Jan. 16-18, 2015

Regional/Category Round:
Windows 8.1, Windows Server 2008, Ubuntu, Cisco Networking Challenge

Semifinals (Middle School):
Windows Vista, Windows 7, Ubuntu, and a Cisco Networking Quiz

Features

State Awards Announced, Next Up — Regionals and Semifinals

After a challenging and very competitive State Round Dec. 5-7, the Air Force Association (AFA) State Award winners and Platinum, Gold, and Silver certificate winners were announced Wednesday, December 17. Middle School Semifinalists were announced at the same time since the second Middle School Round was conducted at the same time. Announcements and scores are posted at:

http://www.uscyberpatriot.org/competition/current-competition/scores

For the first time ever, high school teams competed according to tier in the State Round, and what competition it was! At 9:03 am ET, the first Platinum Tier team, Howard County, Maryland's Applications and Research Lab - Team_4 connected to the server, followed at 9:04 am ET by the first Gold Tier Team, Miami, Florida's George T Baker Aviation School. By 9:06 am ET the first Silver Tier Team, Rootstown, Ohio's Bio-Med Science Academy had connected to

the server. Each team made CyberPatriot history as the first team to compete in their tiers.

Each tier faced the Network Security Challenge and the Cisco Networking Challenge at difficulty levels determined by tiers with the Platinum Tier at the highest level of difficulty and the Silver Tier at the beginner-level of difficulty. Gold Tier teams were given the challenges at the medium difficulty level. The Middle School Division teams' challenges were designed based the overall performance of teams in Middle School Round 1 and last season's Middle School Pilot. In the end 1,344 teams competed in the State Round and Middle School Round 2.

Annette Lang, Coach of the Silver Tier's Bio-Med Academy team, summed up her team's experience to date with, "The students are learning so much through the CyberPatriot rounds! The format of the competition has motivated my students to be self-directed

University of Maryland Air Force ROTC cadet volunteers staff the CyberPatriot Operations Center (CPOC) during the CP-VII State Round and Middle School Round 2, Dec. 5-7.

learners. I love witnessing the peer teaching that is happening."

Next up: The Open Division's Regional Round, All Service Division's Category Round, and Middle School Division's Semifinals, Jan. 16-18. For more information on the next competition rounds, see Chapter 4 of the CyberPatriot Rules book here.

Sponsor Profile: CISCO

Cisco, a leading manufacturer of Internet protocol (IP)-based networking products and services, has renewed its support for CyberPatriot at the Cyber Diamond level! Partnering with the program in 2012, Cisco is a longtime contributor to CyberPatriot, providing equipment, employee mentors for participants. Cisco also hosts the Cisco Networking Challenge during the CyberPatriot National Finals Competition.

In 2013, more than 50 Cisco employees volunteered to mentor CyberPatriot participants, teaching students about networking security skills and offered their technical skills during CyberPatriot Finals. Cisco's Matching Gift program contributed dollars/hour for volunteer hours recorded in support of this effort.

Cindy DeCarlo, Cisco's Executive Sponsor for CyberPatriot activities said, "Cisco is committed to inspiring more people to pursue STEM education and careers. Through mentoring, IT training, and support for schools and nonprofits, we are working to increase the pipeline of STEM talent around the world. CyberPatriot is one of the nation's best examples of driving enthusiasm and commitment for STEM within our schools. Cisco is proud to be supporting CyberPatriot."

We are happy to have you back, Cisco, and we are looking forward to another great year together!

Sony Pictures Hacking Nightmare

On Nov. 24, 2014, Sony Pictures Entertainment discovered its computers were hacked. The hackers stole company information such as contracts, marketing plans, and e-mail exchanges between top executives. The wide breadth of information found in text sharing websites days after the incident not only contained passwords stored by Sony and the company's security certificates, it also contained Sony employees and their family members' health information (personal birthdates, gender and health conditions). In addition, five unreleased films were found on a file sharing website.

Since the initial discovery of the hacking, employees were unable to access their computers and Wi-Fi. More recently, Sony, unable to process payments, has cancelled film shoots.

Some experts estimate the security breach could cost Sony between $70 million to $100 million dollars. This would cover the cost of investigation, computer repair or replacement, and future preventative steps as well as lost production. This does not include loss of business from future projects. The attack, believed to be the worst of its type on a company on U.S. soil, also hits Sony's reputation for a perceived failure to safeguard information, said Jim Lewis, senior fellow at the Center for Strategic and International Studies.

For more information about the attack, visit http://www.reuters.com/article/2014/12/09/us-sony-cybersecurity-costs-idUSKBN0JN2L020141209 .

Coaches' Corner

- **Online Coaches' and Mentors' Meetings.** The Coaches' Meetings are a great time to ask any questions about the competition before the upcoming round of CP-VII! The first meeting will provide round details in a slideshow, with a question and answer session afterward. The second meeting will have a shorter slide presentation and focus on questions from participants of all experience levels. Information on joining these meetings will be emailed to all Coaches and Mentors a week before the first meeting.

  - Jan. 13 — 4:30 pm ET/3:30 pm CT/1:30 pm PT
  - Jan. 15 — 9:00 pm ET/8:00 pm CT/6:00 pm PT

- **Participant Kits.** The remaining participant kits will be shipped during the first full week of January (Jan. 5-9). Each Coach, Competitor, and linked Mentor/Team Assistant will receive a t-shirt, coin, lapel pin, pen, sunglasses, USB mouse, and certificate. Coaches with multiple teams will be sent one box with enough gear for all teams. Beyond the Bell will distribute kits for LAUSD teams. To check the status of your order, click here. If you have any questions please contact info@uscyberpatriot.org.

- **Presidents' Day Weekend Open.** From Feb. 13-15, there will be a special one-off competition focusing on networking and digital forensics, courtesy of CyberPatriot sponsors Cisco and Leidos. All registered teams may compete and performance does not have an effect on, and is not affected by the main competition. More to come soon!

Sponsor Profile: Symantec

We are happy to announce that Symantec Corp. has renewed their support for CyberPatriot as a Cyber Gold sponsor! For the second consecutive year, Symantec has contributed to CyberPatriot, achieving their pledge to provide $1 million in STEM grants to non-profit organizations around the globe.

Symantec provides security, storage, and systems management solutions to a wide range of businesses across the globe, allowing their clients to protect themselves more comprehensively and efficiently than any other company.

"[We are] proud to support the CyberPatriot program for a second year," said Cecily Joseph, vice president, Corporate Responsibility and chief diversity officer. "Our company is committed to creating access to resources and programs that get people excited about STEM"

Thank you, Symantec, for the continued support!

The CyberSentinel

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Spotlight on CyberPatriot Coach Lisa Oyler

The CyberPatriot competition isn't a sport, but don't tell Lisa Oyler that. The high school computer science teacher has used the competitive, team-based contest to inspire her students to pursue careers in science, technology, engineering, and math (STEM) and to build on the knowledge they gain from the Cisco Networking Academy curriculum.

Creating connections for students

Before Summit Technology Academy opened in 1998, Lisa was juggling a lot: raising her two young children, pursuing a master's degree in business, and finishing her teaching credentials. Two years later, she got even busier when Summit hired her to teach computer courses. To prepare, she taught herself basic networking skills over the summer and earned different IT credentials, covering a curriculum that included 43 chapters of information in 18 weeks.

"In the summer, I spent three weeks training to become a Cisco Networking Academy instructor," Lisa said. Then, she challenged her students with hands-on projects and engaging classroom activities. "We started out with four routers and a switch, and the kids put it together to form their own network."

Building a network was just the start. Every year, Lisa put her students through a demanding, rigorous curriculum, squeezing four semesters into less than 10 months. Lisa teaches networking courses at Summit, which prepares students to take the Cisco CCENT and CCNA exams and succeed in entry-level security specialist careers. "Networking Academy is constantly changing," she said. "My students are doing exactly what is happening in the industry today."

Wired to succeed in cybersecurity

Cisco began supporting CyberPatriot in 2012, creating an aspect of the competition focused on defending networks and mobile devices, and providing curriculum and tools from the Cisco Networking Academy to help students train.

As Lisa taught more and more students, CyberPatriot's National Youth Cyber Defense Competition was gaining in popularity. Lisa's students had the skills to excel in this hands-on competition. From 2011 to 2014, Lisa coached four CyberPatriot teams and took three of them to the National Finals. For the 2014-2015 competition, she is coaching five teams, including Summit's first all-female team.

After first finding out about CyberPatriot from Summit's director, Lisa asked the students if they wanted to get involved and they were excited and signed up right away. At the end of the preliminary rounds of CyberPatriot V in 2013, Lisa's team, only her second ever to compete in CyberPatriot, qualified as one of the top 12 teams in the nation and earned a trip to the National Finals in Washington, D.C.

"People in the industry told us 'go to the Nationals to learn, don't expect to win,'" Lisa said. "To me, we had already won by finishing in the top 12."

John Madick, a mentor to Lisa's teams since she began coaching, remembers the difficulty of the final rounds. "The architect of the Cisco challenge told our students they wouldn't finish that part of the competition," he said. "Our kids took that as a challenge and actually finished the exercise in the time frame."

Not only did the team finish the exercise, they won the entire Cisco portion of the competition, scoring more points than the second and third teams combined. In the next round, which featured even more machines and threats, the students competed but fell short of first place. "They went through it, maintained their cool, and it was much different than the first rounds," John said. "But the kids were boosted by their confidence from winning the Cisco exercise."

"That year, the students learned a lot," Lisa said. "Having that understanding of networking and cybersecurity gives them the confidence to do better in future competitions." With their Networking Academy education and Lisa's coaching, the students were prepared to face any of CyberPatriot's future challenges.

A growing network of competitors

Justin Nitz started his CyberPatriot career as a sophomore at Summit and never looked back. Once a music major, Justin is now on track to finish high school with his associate's degree in computer science.

"I fell in love with CyberPatriot immediately," Justin said. For someone who enjoyed playing video games and using computers, watching juniors and seniors competing in such a competitive environment took Justin's interest to new levels. He spent well over 100 hours that year preparing for the competition, meeting with the older students and Lisa every Tuesday and Thursday to study Cisco curriculum and practice protecting networks.

All of that practice paid off, and Lisa took two teams to the CyberPatriot VI National Finals in March 2014. Justin, part of "Kernel Panic," took first place in the Cisco networking portion of the competition and fifth place overall in the Open Division. Lisa's other team, "Team Sudo," finished in second place in the Cisco portion and third place overall in the Open Division. Their success stems from Lisa's passion for teaching and coaching, and she expects nothing less from her students. "If we're going to National Finals, we're going to win the Cisco competition." Lisa's teams didn't win the entire competition that year, but the memories they'll take with them will last forever. "I've never seen them smile bigger than they have on stage," Lisa said. "One of my student's parents said their son had never been on a winning team."
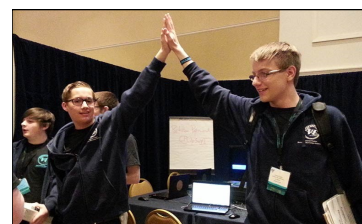
Turning education into cybersecurity careers

CyberPatriot competitors spend months preparing to beat 1,600 other teams, but Lisa also understands how important the program is for preparing her students for careers in STEM. "It's great that they do well in the competition and it's something that they can walk away with and use after high school," she said. Like Justin, another of her former students turned his CyberPatriot memories into a career reality.

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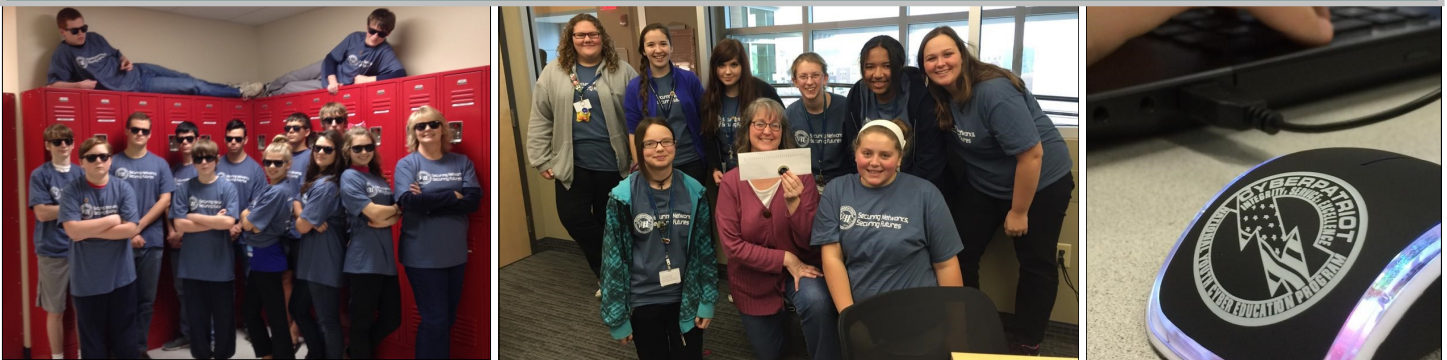
Spotlight on Lisa Oyler (cont'd)

own technology support and consulting company with two former CyberPatriot teammates. They competed together and now work together to serve small businesses in the Kansas City area. "Networking Academy and CyberPatriot gave me the base of knowledge to understand technology and apply it in a business setting," Kevin said.

While it may have been hard to recruit students at first, it comes easy now. Students are more excited than ever to work in STEM and know their skills will be in demand once they graduate from high school and college. "When students go to Nationals and hear people from the industry saying 'we need a future workforce for these high-paying, in-demand jobs,' it's changing their decision-making process," she said.

"Lisa is an excellent teacher and her networking students have an absolute mastery of the competition," John said. "She made it so our kids were excited and thrilled to be a part of CyberPatriot."

Lisa's teaching and coaching continue to inspire students, and she expects many of them to find jobs in networking and cybersecurity. "I look forward to the start of school because of CyberPatriot," Lisa said. "What I really enjoy is that they all have internships and jobs and send me letters after they've graduated telling me how well they're doing."

This Month in Cyber History

Jan. 22, 1984 — The Macintosh project was begun in 1979 by Jef Raskin, an Apple employee who envisioned an easy-to-use, low-cost computer for the average consumer. Five years later on Jan. 22, 1984, Apple Computer launched the Macintosh, the first successful mouse-driven computer with a graphic user interface. For the launch, Apple used a

single $1.5 million commercial during the Super Bowl. The commercial played on the theme of George Orell's 1984 and featured the destruction of Big Brother (a veiled reference to IBM) with the power of personal computing found in a Macintosh. Click here to view the Super Bowl advertisement.

For more information, visit:
www.computerhistory.org/tdih/January/22/

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