2019 Winter ICT Educators' Conference Breakout Sessions

BREAKOUT SESSION 1 - Thursday 10:30 – 11:20

"Free OpenStack Cloud Computing Labs for your Cloud courses" (Room: Kistler)	**Carter Burns and Ron Sharman,** Trident Technical College	Trident Technical College has developed fifteen modules containing forty-seven short lab exercises that provide the learner hands-on experience working in a cloud environment. The labs are logically grouped in the modules and the first nine modules use the web-based Horizon dashboard interface to administer the cloud environment to perform routine and advanced tasks. The remaining six modules provide similar hands-on experience working in the OpenStack command line environment.
"You've been asked to lead an AI initiative: now what?" (Room: Silver Oak/Jordan)	**Peter Coffee** Salesforce	With more than thirty years' involvement in AI applications and education, Peter Coffee has assisted the autopsies for more than one cycle of AI hype and disappointment. He will share both immediate and forward-looking recommendations and use cases for today's accelerating machine-learning and data-science efforts, enabled by the (literally) exponential growth of planet-wide connectivity and computational capacity; he will lead a discussion with session participants on how they can best frame and address their opportunities and challenges, as they build future-enabled programs that further both technology and practice in a long list of domains.
"Packet Tracer Activity Wizard" (Room: Cakebread)	**Robert Samson** WASTC and Mesa Community College	This session will concentrate on: Opening the Packet Tracer Activity Wizard, the integrated Answer Network and Initial Network, Grading rubric, Variables, Locking/unlocking desktop items, and the Activity Sequencer. Completion of this session will give an instructor information on how to enter and analyze a Packet Tracer lab Activity Wizard to determine the values used for grading and start the creative process for making your own Packet Tracer Activities. Basic working knowledge of Packet Tracer is suggested.
"There's a Pathway for That! Getting on Track with the CompTIA Career Pathway" (Room: Beringer)	**Stephen Schneiter** CompTIA	We have all seen the headlines and guesstimations about the increased unfilled jobs in IT and cybersecurity. Did you know there is a pathway for that? The CompTIA Career Pathway can successfully prepare students for quality IT positions such as Cloud Architect or Cybersecurity Analyst and help them open doors and start a career. The individual certifications in the pathway can be a great fit within your IT program track to take students from foundational through professional skills courses. Students come out of your program with a degree, showing academic resourcefulness, and vendor neutral industry certification showing validation of skills and the ability to work in a multi-vendor environment. Join us to learn more about how the CompTIA Career Pathway can build your IT program and help produce a highly qualified and sought-after workforce. We will also discuss how you can join the CompTIA Academy Partner Program and CompTIA Instructor Network and receive free resources and instructor training
"Cybersecurity Industry Organization Panel" (Room: Caymus)	**Luis Chanu, Lan Jenson and Steve Linthicum** Cyber Professional Organizations	Under the direction of the Governor's Office of Emergency Services, the Workforce Development and Education Subcommittee for the California Cybersecurity Task Force, has a broad charge relative to identifying educational services and attempting to coordinate among the various educational organizations operating in the State including both public education entities (e.g. community colleges, CSU and UC universities), private colleges and universities, and other training entities. Panelists are members of the subcommittee and will be providing information on both past activities and current activities.
WORKSHOP: (10:30–12:20) **"Binary Exploits and Assembly Code"** (Room: Opus One)	**Sam Bowne** CCSF	Learn to exploit servers at the binary level with memory corruption attacks. We will use assembly language, debuggers, and C to make vulnerable programs on Windows and Linux and use various techniques to attack them including buffer overflows, format string exploits, return-oriented programming, and heap sprays. Participants must bring a laptop computer capable of running VMware virtual machines, or be willing to spend a few dollars renting cloud servers. The workshop uses a Capture-the-Flag format so each participant can focus on projects at their skill level. Beginners who have never used assembly language will find introductory lessons and challenges, and those who are experienced in reverse engineering can work on advanced attacks. We will explain and demonstrate all the techniques required to solve the challenges. All materials, and the live CTF system, are free for everyone to use, and will remain available after the workshop is over.

BREAKOUT SESSION 2 - Thursday 11:30 – 12:20		
"Regional Program Strategies for Cloud Computing Programs using AWS" (Room: Kistler)	**Salomon Davila** California Cloud Workforce	A Strong Workforce Project lead by Santa Monica College (SMC) in cloud computing is being developed with regional computer science and information systems faculty along with student services in partnership with a Amazon Web Services (AWS), a provider of cloud computing services. Faculty at SMC co-developed a series of four (4) courses which have been extended to local community colleges in Los Angeles County for adoption in a regionally approved certificate program. Presentation on project management techniques will cover coordination of communications, local course approval, labor market information, high school partnerships and work-based learning models organized to achieve enrollments, marketing and professional development. In addition, models for regional advisory and steering committees in partnership with local economic development systems will be shown to scale efforts to meet regional labor markets. Examples of co-curricular programming will be presented for counselors, career pathways specialists and high school partners part of the career pathways development.
"Building Bridges Between Industry and Community Colleges" (Room: Silver Oak/Jordan)	**Panel Discussion** Google, Coursera, JFF, and Las Positas College	This session will focus on the current and future role tech companies play in supporting community colleges, with a specific case study on the Google IT Professional Certificate. Grow with Google has brought their IT Support Professional Certificate to over 25 community colleges. Google.org is funding workforce development nonprofit, JFF, to provide support for learners in seven states (CA, IL, MI, NY, OH, TX, and WI). . California's Las Positas College is the first to launch the program for college credit.
"Cisco Network Academy Updates" (Room: Cakebread)	**Echo Rantanen** Cisco	Since 1997, Cisco Networking Academy has been working toward a single goal: fostering the technical and entrepreneurial skills that people, educators, and companies need to change the world for the better. Join this session to hear about the Cisco Network Academy curriculum updates.
"Updating National IT Industry Skill Standards and How Faculty and Employers Can Get Involved" (Room: Beringer)	**Ann Beheler and Mark Dempsey** National Convergence Technology Center	The National Convergence Technology Center – an NSF Center of Excellence – was recently awarded a National Science Foundation grant to lead a comprehensive, nationwide effort to update IT job skills, which were last updated for the most critical IT job clusters in 2003. Over the next four years, the leadership team will host multiple face-to-face focus groups and virtual meetings in three regions (East Coast, West Coast, and Central U.S.). The meeting will be convened with educators and employers across the country to identify the top 8 to 10 essential IT job clusters and the entry-level job skills within each cluster. These job skills will help employers create actionable job descriptions and smaller and medium-sized colleges develop relevant curriculum.
"Governance, Risk, & Compliance" (Room: Caymus)	**Daniel Gilbert-Valencia** Office of Information Security, CA Dept of Technology	This presentation will outlining state IT governance, risk, and compliance programs and the need for IT professionals who have the skill set to conduct cyber security planning, assess risk, and reliably measure and track progress towards compliance with state and federal requirements.

20.8 BILLION DEVICES WILL BE CONNECTED BY 2020

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CISCO

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BREAKOUT SESSION 3 - Thursday 1:30 – 2:20		
"IoT Security" (Room: Kistler)	**Echo Rantanen** Cisco	The Internet of Things (IoT), where people, processes, things, and data are connected via emerging Internet technologies will be introduced. A variety of networking and computer hardware devices will be integrated into end-to-end systems to solve practical problems. Students will develop introductory skills to perform Vulnerability and Risk Assessment of IoT solutions in a specific business context and be able to assess, research, and provide risk mitigation strategies for common security vulnerabilities in IoT systems.
"AWS Academy Program Introduction & Overview" (Room: Silver Oak/Jordan)	**Angel Duncan** AWS Academy	AWS Academy offers an institutionally embedded pathway for students and educators to gain AWS Cloud computing skills and knowledge that prepares them to compete for IT jobs and pursue industry-recognized AWS Certifications
"CCC TechConnect Services: How to Enhance Online Classrooms" (Room: Cakebread)	**Evic Oropilla and Donna Gustafson** CCC TechConnect	CCC TechConnect will give an introductory presentation on the suite of services that are offered to the 114 California Community Colleges: 3Cmedia Solutions and CCC Confer. 3C Media Solutions is the educational media repository and distribution source for video content, streaming services, and event coverage. CCC Confer is the collaboration tool for online classes and meetings offering the latest web and video conferencing technology.
"Six Ways to Maximize Your Program's Relationship with Business and Industry" (Room: Beringer)	**Ann Beheler and Mark Dempsey** Convergence Technology Center	The IT industry continues to evolve and change as new technologies emerge. Educators must keep up. Many programs use a traditional "business advisory council" approach: advisers meet once a year, hear a program update, and offer their tacit approval. There is frequently no specific feedback or recommendations. The National CTC's successful "Business and Industry Leadership Team" (BILT) approach energizes that outdated model by insisting that BILT members co-lead the work, thus encouraging engagement. It's a well-vetted model that's been adopted by organizations outside of the IT discipline. BILT members meet quarterly, provide feedback on a variety of subjects including classroom content, and annually ask faculty to align curriculum to their needs. This session will showcase six essential strategies of implementing this BILT process, including how to recruit BILT members, how to maximize meeting times, and how to validate job skills. "How-to" documentation will be shared as well.
"PACE (Pathway to Advancement in Cybersecurity Education)" (Room: Caymus)	**Ben Izadi and others** Cypress College	PACE (Pathway to Advancement in Cybersecurity Education) is a guided Cybersecurity pathway that introduces dual enrollment College courses as early as 9th grade with multiple educational and employment exit points. PACE is funded by the Strong Workforce Project (250K; Yr1) and is now in its 2nd year of funding (200K; Yr2). PACE is an "adaptable" model to accommodate HS students based on their specific potentials/needs. It involves establishing a strong dual-enrollment team, collaboration with stakeholders, formal agreements with the HS district (Anaheim Pledge, course articulation), and a comprehensive pilot study at our sister High school (Magnolia). During the first year 18 dual-enrollment sections were offered, and HS students completed 12 College certificates and obtained 73 industry certificates (i.e. IT Fundamentals, CCENT, Net+, CCNA, Security+, CySA+).
WORKSHOP: (1:30–3:20) **"Introduction to Model Driven Programmability"** (Room: Opus One)	**Adrian Iliesiu** Cisco DevNet	Explore the reasons behind the move to Model Driven Programmability from traditional interfaces such as CLI/SNMP. Learn about the interaction between YANG data models and the new standard transport protocols of NETCONF and RESTCONF. Discover how to leverage NETCONF/RESTCONF to query and configure network devices.

About this Certificate

Courses

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Google IT Support Professional Certificate

The launchpad to a career in IT. This program is designed to take beginner learners to job readiness in about eight months.

BREAKOUT SESSION 4 - Thursday 2:30 – 3:20		
"Cloud Computing Curriculum in Partnership with AWS Educate" (Room: Kistler)	**Dr.Howard and Michael Berman** Santa Monica College and AWS Educate	Curriculum development for burgeoning occupations, such as cloud technician and cloud support specialists is a recursive process to align industry needs and to meet state requirements of the Community College Chancellor's office. The session will cover the integration of cloud computing technologies (compute, storage, virtual private cloud, security and databases) across a certificate program while observing alignment to high school connections, industry certifications and local occupational needs. AWS Educate, an open source platform, will also be discussed to showcase how instructors can collaborate across institutions to access resources and material to help teach cloud computing using AWS and provide guidance to the students of the occupational job descriptions that are currently forming in the new world of cloud computing..
"NDG NETLAB+ and NDG Online Lab as a Service" (Room: Silver Oak/Jordan)	**Rich Weeks** Network Development Group	NDG has two products designed to help academic institutions teach information technology job skills: 1) NETLAB+ and 2) NDG Online. NETLAB+ is designed for an academic institution to host labs. This model works well for many academic institutions that need to 1) own the equipment or 2) investment budget funds from a grant or budget in one year but use the equipment for many years. NDG Online is a lab as a service offering that provides a service for labs. An NDG representative will present both the NETLAB+ product and NDG Online service. Several examples of schools using both products will be presented. Instructors will have the opportunity to ask questions about the NETLAB+ product and the NDG online service from an NDG representative and customers of NDG NETLAB+ or NDG Online service.
"Guided Pathways: Regional Learning and Resources" (Room: Cakebread)	**Maeve Katherine Bergman** California Community College Chancellor's Office	Taking on the bold goals of the California Community Colleges Vision for Success (http://californiacommunitycolleges.cccco.edu/portals/0/reports/vision-for-success.pdf) can be daunting unless we examine what we are doing, how that compares with what we want to accomplish, and then identify practices and improvements which may help advance us toward those goals. Guided Pathways are the California Community Colleges framework for building capacity in college-wide student success practices, including guided exploration, improved placement and developmental sequence, and integrated student supports. However, each college community will create something distinct based on their students' needs and voices. Come to hear some tips and practices gleaned from colleges' initial "Inquiry and Design" (planning/prep) work that can help career education programs move into full-scale Guided Pathways practice, including building on existing evidence-based practices you are already using to support your students, engaging student voices, and cross functional college team work with students, faculty, staff, and college partners..
"Cisco Networking Academy Talent Bridge Program" (Room: Beringer)	**Trent Dorroh** Cisco Talent Bridge	Cisco Networking Academy Talent Bridge connects Cisco and Partner employers with world-class Networking Academy talent for the digital economy workforce of the future. The Talent Bridge team actively works with recruiters at Cisco and partner companies to identify entry-level job opportunities for our students. Networking Academy Talent Bridge connects recruiters with qualified candidates from our program based on employer-specific skill requirements using data-informed matching.
"Developing an Effective Dual-enrollment Cybersecurity Course" (Room: Caymus)	**Ben Izadi and others** Cypress College	Developing an effective dual-enrollment Cybersecurity foundational course requires close cooperation and collaboration between HS teachers and College instructors. For the past 3 semesters a team of Cypress college instructors and mentors (College students) have worked closely with the Magnolia HS teachers to provide instruction, labs and Cybersecurity competition training at the HS. This project has now evolved into the creation of a dual-enrollment course; CIS 190 (Cybersecurity competition fundamentals); and is being articulated with the Magnolia HS. The curriculum involves introduction to Cybersecurity, IT fundamentals, Linux and networking essentials and requires students to take CompTIA's IT fundamentals exam and participate in the CyberPatriot competition. Three sections of CIS190 were taught in Spring of 2018 and 50 HS students passed the IT fundamentals exam. In this session we will go over the process and challenges to develop/establish the curriculum. We will also provide guidelines to adopt the process at your College and develop strong dual-enrollment Cybersecurity foundational courses.

BREAKOUT SESSION 5 - Thursday 3:30 – 4:20		
"What the heck is Esports (and why I need to find out)" (Room: Kistler)	**Deborah Lemon** Ohlone College	Esports Industry is a grass-roots international community that has launched into an epic growth trajectory impacting entertainment, sports, media, business, tech industry, along with unexpected businesses such as law, finance, health, security, fashion, food, and, of course, education. This presentation will introduce the world of Esports, the worldwide growth of Esports, and the remarkable future of Esports
"Red Hat Academy: Your Future Is All Cloud & Red Hat Sits at the Core" (Room: Silver Oak/Jordan)	**Tricia Turlington** Red Hat Business Development	In 2018, 80% of hiring managers surveyed by the Linux Foundation, stated they are looking to hire Linux talent within the next year. Open source professionals ranked containers to be the biggest area to see growth for the first time, which is no surprise considering the constantly evolving technology marketplace we live in today. "Cloud" is no longer a scary buzzword, but a necessary skillset that, combined with Linux as its core, is driving some of the most influential IT transformations. Join us to discuss how Red Hat can engage in your academic mission to equip your students with the skillsets needed to succeed and how you can join an incredible ecosystem of academic institutions making a lasting impact on our communities.
"Classroom Strategies for Teaching Employability Skills" (Room: Cakebread)	**Susan Randall** Cleveland Community College	Cleveland Community College offers a multi-class approach to employability skills. First-year students learn the value of employability skills and practice them in classroom exercises, while second-year students put those skills into real-world practice by helping run a campus PC repair clinic. This approach stems in part from the recommendations of Cleveland Community College's Business and Industry Leadership Team (BILT), which insists that soft skills are a must both for new hires and for incumbent workers seeking retraining. This session will share this two-year model in detail and discuss the benefits and challenges involved.
"Registered Apprenticeship: A Pathway to Tech Careers" (Room: Beringer)	**Matt Austin** WTIA Workforce Institute / Apprenti	Apprenti is expanding registered tech apprenticeship to northern California with funding from the US Department of Labor and JP Morgan Chase. Through Apprenti, selected candidates receive 2-5 months of full-time technical training prior to going on the job. Learn how Apprenti selects training providers that meet employers' needs and the requirements for on-the-job training in occupations such as software development, UX/UI, network security administration. Learn how candidates apply for registered apprenticeship opportunities, criteria for entry, and competencies that are important for a variety of tech career
"NSF ATE - AS in Digital Forensics & Incident Response" (Room: Caymus)	**Tobi West** Coastline Community College	This presentation will cover the intent of the NSF ATE grant called Cyber Up! Digital Forensics & Incident Response (DFIR) that was awarded to Coastline College. An overview of the project, methodologies, and partnerships will be shared. Emphasis of the project over the next three years is development of an AS in Digital Forensics & Incident Response. The project will focus on the development of curricula that will teach students and professionals the cybersecurity knowledge and skills of digital forensics and incident response, which need to be deployed in real-time and are dynamic to changing situations during and in response to cyberattacks. Through the DFIR program, the project intends to create adoptable educational resources; form academic, government, and industry partnerships; and prepare qualified cybersecurity technicians and professionals for entry into, or advancement within, the U.S. workforce.
WORKSHOP: (3:30 – 5:20) **"NDG Linux, Cyber, Virtualization Courses and Labs"** (Room: Opus One)	**Jason Zeller** Network Development Group (NDG)	With over 15 years supporting teaching and learning NDG has continued their great work by: - Developed a course series designed to take a learner with zero knowledge of Linux to Linux certifications. NDG has also partnered with Red Hat Academy to support Red Hat Academy Linux courses. - Developed lab resources to help academic institutions teach cybersecurity. The labs include Ethical Hacking, Forensics, Security+, CCNA Cyber Ops, and Palo Alto Network's Cybersecurity Gateway, Cyber Security Essentials, and Firewall Essentials. - Partnered with the VMware IT Academy to help learners study virtualization and to help academic institutions teach virtualization by via a short course "Introduction to Virtualization".

My NetAcad

BREAKOUT SESSION 6 - Thursday 4:30 – 5:20		
"Gamification, AI and the Cyber Workforce Gap" (Room: Kistler)	**Daniel Manson and Brad Wolfenden** CalPoly Pomona and Circadence Corporation	Gamification—applying rules, engaging teams, and scoring—are widely accepted as effective methods for attracting and developing cybersecurity talent. Recent studies show that gamification is a key element in training an effective cyber workforce. A McAfee April 2018 report, "Winning the Game," surveyed almost 1,000 cybersecurity managers and 500 employees, focusing on current threats, challenges, and investments needed. The survey found 40% of organizations already host some kind of gamification exercise at least once a year and 77% of senior managers said their organization's cybersecurity would be much safer if they implemented more gamification. In this session, three experts will explore how we can make awareness training more compelling and provide better, more measurable results (hint: they're big fans of gamification) and how AI/ML has incredible potential to both augment and automate the work and training/education of cyber professionals.
"Build Your Virtualization Expertise and Teach Emerging Technology Skills" (Room: Silver Oak/Jordan)	**Susan Coefield** VMware, Inc	This session will include an overview of the redesigned VMware IT Academy including 3 new academic courses, a school branded Web Store with free software and teaching resources, NDG labs and certification exam vouchers. VMware has partnered with NDG to develop an "Introduction to Virtualization" micro-course designed to be added to a CompTIA A+, basic operating system, networking or introduction to cybersecurity to teach basic virtualization topics. Hear from other dynamic instructors on how they are teaching VMware to their students and the value of VMware Certifications. Presenters: Jason Zeller (NDG) and adjunct for Fort Hayes University; Mike Murphy shares his success; Foothills College; Susan Coefield; VMware IT Academy; Regional Program Manager ; other surprise guests from our instructor community.
"How Innovative Programs Can Allow Students Opportunities to Continue Past the AAS" (Room: Cakebread)	**Ann Beheler, Suzanne Ames, David Keathly, and Mark Dempsey,** Convergence Technology Center	The University of North Texas offers a unique Bachelor of Arts in IT (BAIT) that accepts many more hours of community college workforce courses than similar Bachelor programs. Lake Washington Technical College is part of a network of schools in the Pacific Northwest that offers a Bachelor of Applied Science in Software Development. Collin College in Texas is developing a new Bachelor of Arts in Technology for cybersecurity. This session will share these three models in detail and discuss the challenges of developing and managing such a program.
"Coastline's Cybersecurity Apprenticeship Program" (Room: Beringer)	**Tobi West and Dr. Nancy Jones** Coastline Community College	Coastline College has a Cybersecurity Apprenticeship Program (CCAP) that provides students with zero-cost tuition, textbooks, & certification exam vouchers to prepare them for the cybersecurity workforce. The program funded by the State Chancellor's Office anticipates that 50 apprentices will complete 2,000 hours on-the-job with local employers while Coastline provides education through college-credit courses aligned with its A.S. in Cybersecurity. One of the primary program requirements is the A+ exam. Apprentices prepare for cybersecurity careers through career-readiness workshops, on-campus events, & mentoring. Between each of the credit courses, exam-prep workshops are offered to ensure that apprentices are ready to sit for the exams. The courses support hands-on learning using NETLAB. This presentation will promote discussion and share lessons learned since the program started in late 2016.
"Driving Impact Tomorrow Through Cybersecurity Education Today!" (Room: Caymus)	**Henry Danielson** Coast USD/ CCIC/ CAL POLY SLO	Discuss/explore CyberPatriot, Cybersecurity at the California Cybersecurity Innovation Challenge in San Luis Obispo and Cal Poly San Luis Obispo's GENCYBER summer camps. Promote Capture the Flags and demo Facebooks free CTF and CTFd and Hackerfire websites. Provide rich resources to help start afterschool clubs. https://cci.calpoly.edu/events/ccic

BREAKOUT SESSION 7 - Friday 10:30 – 11:20		
"Applications of Computing, Communications, and Electronics Technologies to Societal Needs" (Room: Kistler)	**S.R. Subramanya** National University	Of all the technologies witnessed in the human civilizations, the computing/information, communications, and electronics technologies have had the most impacts, the highest penetrations, in very shortest times, on almost all facets of our lives. These technologies have become key enablers of various domains such as engineering, sciences, healthcare, manufacturing, energy, management, transportation, urban planning, banking and finance, retail/commerce, etc. While the Personal Computers, the Internet and Web, and Software technologies rose to popularity during the last couple of decades, their technologies have since matured and have become ubiquitous. We are aware of their impacts on people and society– in terms of lifestyles, social norms, privacy, nature of jobs, etc. In recent times we have been witnessing the rapid emergence in a plethora of related technologies such as Mobile technologies, Robotics, Autonomous Vehicles, Machine Learning and Artificial Intelligence, Cloud Computing, Big Data and Analytics, Internet of Things, and Virtual/Augmented Reality, to name a few of the prominent ones. There have also been several applications of the above technologies beginning to be used in the real world. These have tremendous potentials in changing lifestyles of people and improving the quality of life..
"What!!!! You think you know Wireshark?" (Room: Silver Oak/Jordan)	**Laura Chappell** Wireshark University	Laura Chappell is an American researcher and educator. She is best known as the founder of Wireshark University. Her sessions are always interesting, invaluable, and entertaining. Sometimes scary too.
"CISE Security Program at Merritt College" (Room: Cakebread)	**Mark Egan** StrataFusion Group, Inc	The Consortium of Information Systems Executives (CISE) Education Fund and Merritt College created the Security Program to address the growing cybersecurity needs of many organizations. Security professionals, from over thirty Bay Area companies, designed the program to accurately fulfill the needs of modern security teams. Their dedication to improved cybersecurity training led to the creation of the only accredited two-year security program in California. With the support of the CISE Education Fund charity group and the facilities of Merritt College in Oakland, the Security Program is helping to create new career opportunities and advance cybersecurity education..
"Student e-Portfolios and Professional Online Presence (POP)" (Room: Beringer)	**Louise M. Kowalski,** SUNY Erie Community College	At the end of this workshop you will be able to: * Easily incorporate the development of student portfolios into your existing curriculum, * Assist students in cultivating a professional online profile (POP©), * Assist students in using Social Media to get noticed and develop a professional network, * Utilize FREE resources to assist with branding and developing a portfolio, * Improve classroom projects to boost soft skills while creating samples for online portfolios, and * Utilize best practices to make the ongoing curation of an online portfolio improve students' chances of getting hired.
"Training the Cyber Athletes of Today" (Room: Caymus)	**David Zeichick** CSU Chico	My Introduction to Computer Security class follows the methodology of a security penetration tester. First, the students perform reconnaissance using Nmap/Zenmap to search the network for servers. Once the servers are discovered, the students perform intense scans with Nmap to list all of the open ports and identify the operating system. Next, they scan the discovered servers with OpenVAS, which lists all the servers' vulnerabilities. They learn more about vulnerabilities by researching CVEs. The last step is to gain access and they use the point-and-click hacking tool, Armitage. This tool is chosen to demonstrate how easy it is for vulnerable systems to be hacked. We also analyze network traffic with Wireshark, crack passwords with John and Hashcat, perform a man-in-the-middle attack with Ettercap, analyze logs with Splunk, and learn about web vulnerabilities with BurpSuite.
WORKSHOP: (10:30–12:20) **"Getting Hands-On with Cisco's IoT Connecting Things"** (Room Opus One)	**Kerry Bruce** WASTC and Central New Mexico Community College	In this workshop we will learn about Single Board Computers, Microcontrollers, sensors and actuators which are the foundation of the Internet of Things (IoT). We will conduct a series of activities first based on the Raspberry Pi and Python Programming language. Next we will jump into connecting an Arduino microcontroller to the Raspberry Pi and programming a sketch to control sensors and actuators. Finally, we will introduce the Micro:bit by connecting this low cost computer to the Raspberry Pi for some simple programming fun!

BREAKOUT SESSION 8 – Friday 11:30 – 12:20		
"Industry 4.0: Integrating Networking into Automation and Advanced Manufacturing Degree" (Room: Kistler)	**Chuck Bales** Moraine Valley Community College	Industry 4.0 is the implementation of the fourth industrial revolution in the manufacturing industry. It represents a synergistic cross disciplinary approach to manufacturing combining traditional skill sets with cybersecurity, information technology, electronics and IIoT. This presentation will describe out approach to integrating networking, information technology and cybersecurity into an automation and advanced manufacturing degree program. This will include a description of the latest CCNA Industrial Certification.
"Cloud Computing and Running Code on Google Cloud" (Room: Silver Oak/Jordan)	**Wesley Chun** Google Cloud	Cloud computing has taken over industry by storm, yet there's not enough new college grads who know enough about it. This session begins with a vendor-agnostic, high-level overview of cloud computing, including its three primary service levels. This is followed by an introduction to Google Cloud, its developer platforms, and which products serve at which service levels. Attendees will learn how to run applications on Google Cloud serverless platforms (in Python & JavaScript; other languages are supported) as well as hear about the teaching & research grants available to engineering faculty for use in the classroom or the lab. Whether you're a professor, researcher, edtech consultant, IT staff, TA grad student, or a lecturer, you'll know how to run code on Google's cloud and help enable the next-generation cloud-ready workforce.
"Filling the Gap – Collaborative Cyber & ICT Pathways for GenZ's" (Room: Cakebread)	**Donna Woods** California Cyberhub	35,000+ Cyber/ICT Specialist are needed in California, and each metro area has specific demands and needs. How are we helping employers fill this gap? What can we do collaboratively to reach the GenZ's and build a viable K-College pathway? Come to this innovative and insightful presentation where you will receive a plethora of resources, network connections, and tools to ensure you are part of the solution. Be sure to bring your networking contact cards as we work together to bridge the gap, and build a stronger cyber California and nation.
"Cyber Up! Your Resume" (Room: Beringer)	**Tobi West and Anna Carlin** Coastline Community College	Taking cyber security classes is step one in building your resume. But how do you separate yourself from all the other cyber security students competing for your dream job? You need to Cyber Up! The panel will discuss those activities outside of the classroom that will help sharpen your existing skills through competitions, extend your soft skills through networking opportunities, and leveraging professional associations to land that dream job. Participants will leave with ideas on broadening their skills set beyond the classroom. The presentation will share best practices at our institutions and how industry partners provide many career enhancement opportunities.
"Exploring the CCNA CyberOps" (Room: Caymus)	**Dan Alberghetti** Central Oregon Community College	Take a tour of the CCNA CyberOps course that introduces the student to the background knowledge, skills set, and tools of the entry level cybersecurity analyst. This session will highlight many of the course features including the many hands-on security labs using Arch Linux, Kali Linux, Metasploitable and Security Onion, *how the course maps to US Education Standards, as well as a quick demonstration of the multiple VM environment cybersecurity environment

BREAKOUT SESSION 9 - Friday 1:30 – 2:20		
"Intro to Kubernetes" (Room: Kistler)	**Dave Nielsen** Redis Labs	Kubernetes has quickly become the "Linux of the Cloud". It is so popular now that the Kubernetes command line interface (CLI) named kubectl can now control Kubernetes clusters on more than 5 different clouds including Google Cloud, AWS, Azure, IBM Cloud and Digital Ocean. Attend this session and learn the 10 steps to deploying your first application to Kubernetes hands-on if possible, otherwards.
"Did you know more than half of all IT projects fail? **Project management skills to the rescue!"** (Room: Silver Oak/Jordan)	**Stephen Schneiter** CompTIA	Every person in an organization is either leading a project or participating in one. Everyone's role is crucial to the success of the project completion. Project management skills are valuable to students entering the workforce. With all the Cloud and cybersecurity projects organizations are implementing, understanding the basic phases of project management, managing time and scope, communication and documentation are all key skills employers look for in team members to help ensure successful project completions. Join us to learn more about how you can implement CompTIA Project+ into your program ensuring your students have the required project management skills that every IT person needs. We will also discuss how you can join the CompTIA Academy Partner Program and CompTIA Instructor Network and receive free resources and instructor training.
"Update on ACM Curriculum Guidance for Cybersecurity and Information Technology Transfer Programs" (Room: Cakebread)	**Cara Tang** and **Markus Geissler** ACM, Computing Committee and Cosumnes River College	The Committee for Computing Education in Community Colleges (CCECC) of the Association for Computing Machinery (ACM) is developing Curriculum Guidance for 2-year Cybersecurity programs (CSEC2Y) and Information Technology transfer programs (IT Transfer) and is soliciting feedback from both community college and university faculty. Cara Tang, PhD, CIS Department Chair at Portland Community College, is leading the CSEC2Y guidance development effort based on ACM's CSEC2017 Cybersecurity Curriculum Guidance and will preview an early draft. Markus Geissler, PhD, ICT/DM Deputy Sector Navigator for the Greater Sacramento Region, will present a draft of the competency-based IT Transfer guidance for the first two years of an Information Technology Transfer program. The audience will be invited to provide feedback on both drafts which will help guide the development of Cybersecurity and IT Transfer programs worldwide.
"Capstone to Career: Agile Methods lead to Success in IT Management" (Room: Beringer)	**Dr James Jaurez** National University	Preparing students to realistically research and approach difficult information technology management (ITM) problems requires a flexible perspective on deliverables and expectations. This workshop on Capstone to Career focusses on applying the agile methodology to completing the final practical project for a Bachelor of Science in ITM. Utilizing the SCRUM framework, students can strike the balance between business and technical requirements for a sponsor with the academic requirements to demonstrate and merit the degree. In this workshop, the tools, techniques, and procedures for applying SCRUM with be outlined, demonstrated, and practiced by participants.
"NEW 2019 SkillsUSA CA State Cyber Competition and BayCyber.Net" (Room: Caymus)	**Irvin Lemus** WASTC and Cabrillo College	Come learn about the updated Skills USA Cybersecurity Competition. The presenter will also cover how through various competitions, students in the San Francisco Bay Area as young as middle school are preparing for their first job through various competitions that educate them on career opportunities, soft skills, technical skills and more.
WORKSHOP (1:30 – 2:30): **"Teaching the Internet of Things Through Device Integration"** (Room: Opus One)	**William Saichek** Orange Coast College	The whole goal of an IoT environment is integration and convergence which requires the use of microcontrollers. There are lots of microcontrollers; Samsung, Wink, Insteon/SmartHome, HomeSeer, etc) but to REALLY learn about IoT integration; how to program and control sensors and actuators, etc, you need a true DIY environment, Home Assistant. Home Assistant is not for the "faint-of-heart" or for the casual IoT integrator, but for teaching IoT, it is a great platform to use. Since everything is open-source, it's easy to get into, the hardware (including the Raspberry Pi) is inexpensive, and the possibilities are endless. The community is very active and the help available is generous. There are lots of videos, demos and tutorials, plus dozens of example programs and configurations. In this presentation, we will just scratch the surface of the platform, enough for you to take away and start experimenting in your own environments.