

Pennsylvania Computer Science for All Summit

June 26 – 28, 2018

Tuesday – June 26, 2018					
7:45 AM – 8:30 AM	Registration				
8:30 AM – 10:00 AM	Keynote				
8:30 AM – 4:15 PM	K-5 Fundamentals - Code.org				
10:15 AM – 11:15 AM	Improving the Accessibility of Computer Science	National Policy Experts	Rethinking K-12 Computer Science: A Code.org Workshop for Administrators	Collecting Bananas to Save the World CT and Coding in your Classroom	
1:00 PM – 2:00 PM	Computer Science and Equity				
2:00 PM – 3:00 PM	Computational Thinking for Pre-Readers	Cross-Curricular Computer Science Instruction that Provides Career Ready Experiences	Hanover School District K12 Computer Science		
3:15 PM – 4:15 PM	BSD Academy Philadelphia	Creating a Community of Practice around Computational Thinking in Rural PA	Elementary Technology Integration Across All Platforms		
Wednesday – June 27, 2018					
7:45 AM – 8:30 AM	Registration				
8:30 AM – 10:00 AM	Keynote				
8:30 AM – 4:15 PM	K-5 Fundamentals - Code.org				
10:15 AM – 11:15 AM	Canon-McMillan & Code to the Future - A Lighthouse District for Pennsylvania	Computer Science Instruction in Early Childhood	Computer Science Workforce Needs in Pennsylvania	Public/Private Partnerships to Make CSforAll Possible: A Philadelphia Case Study	Puzzlets
	Teaching Kids to IMPACT Urban Sustainability	Tech in the Elementary Schools			
1:00 PM – 2:00 PM	Everyone Can Code				
2:00 PM – 3:00 PM	Computational Thinking	From Coding to Cryptography	From Hour of Code to Fully Immersive K - 4 Schools	Hands-On Computer Science Activities	The Changing Role of Libraries in the Digital Age
3:15 PM – 4:15 PM	Cyber Robotics Coding Competition: Explore/Compete on a coding platform for virtual robotics	Embedding Coding within the Curriculum	Engaging Students in 3D Design & Computational Thinking	TECHNOChicas - Latina Girls in Computer Science	
Thursday – June 28, 2018					
8:30 AM – 9:45 AM	BirdBrain	Setting CS Goals for Your School: A How-To with Coded by Kids	Tech Girls	Wonder Workshop: Introduction to Coding and Robotics with Dash	
10:00 AM – 11:15 AM	Block it All Out!	Johnstown SD and the University of Pittsburgh at Johnstown Partnership	Implementation	Intag	
12:30 PM – 1:30 PM	Closing Keynote				

Pennsylvania Computer Science for All Summit

June 26 – 28, 2018

DAY I – Tuesday – June 26, 2018

8:30AM – 10:00 AM

Opening Keynote – Ruthe Farmer

8:30AM – 4:15PM

K-5 Fundamentals – Code.org

DCIU & AIU3 Trainers

Code.org CS Fundamentals training is a one-day workshop for K-5 educators interested in teaching computer science. Workshops cover the CS Fundamentals curriculum and offer supplies needed to teach the course.

Teachers receive in-person instruction including an introduction to computer science, pedagogy, overview of the online curriculum, and strategies for teaching “unplugged” classroom activities.

10:15AM – 11:15AM

Rethinking K-12 Computer Science: A Code.org Workshop for Administrators

Tyler Samstag Allegheny Intermediate Unit 3

This workshop is designed for district- and building-level administrators. In this interactive workshop, Administrators will be provided an opportunity to strategically plan the scaling of opportunities in their schools and districts and experience Code.org’s free K-12 standards-aligned computer science curriculum.

Collecting Bananas to Save the World CT and Coding in your Classroom

Alyssa Hirsh

This session is designed to provide participants with real-world connections to computational thinking, the newly adopted CSTA standards, and an online coding tool to build coding literacy beginning as early as third-grade!

Improving the Accessibility of Computer Science

Dr. Winnie Black

The focus of this session will be on the importance and versatility of adding out-of-school time computer science activities to support current and future in-school programming.

National Policy Experts

National and local Policy Experts

K-12 Computer Science Policy Landscape

1:00PM – 2:00PM

Computer Science and Equity

Michael Preston

Computer Science and Equity

DAY I – Tuesday – June 26, 2018 (cont.)

2:00PM – 3:00 PM

Cross-Curricular Computer Science Instruction that Provides Career Ready Experiences

Demetrius Roberts, Ryne Anthony, & Patricia Egner

The best way to learn to code is to actually program computer devices. During this session, we will discuss and present cross-curricular hands-on coding experiences, such as simple robotics, maker projects, and project-based learning for students in grades K-12 that connect to the PA Career Education Work standards. This session will provide participants with experiences they can take back to their organizations to increase computer science for all and provide students with learning experiences connected with current and future careers.

Hanover School District K12 Computer Science

Hanover SD

K12 Computer Science

3:15PM – 4:15PM

BSD Academy Philadelphia

Scott Petermen

The intersection of robotics design and computer science.

Creating a Community of Practice around Computational Thinking in Rural PA

Jesse Maine

In this presentation we will share what was learned by our regional Innovation & Technology Collaborative as we examined how to apply/implement Computational Thinking in our rural schools through practice, planning, and ideation. Perspectives, successes and failures from Intermediate Unit consultants, School/District Administrators and teachers will be shared.

Elementary Technology Integration Across All Platforms

Ryan Smith

At Keystone Elementary school, in Knox, Pa, I have the distinct honor of working with all students in the elementary. This includes students in Grades K-6 along with Multi Disability students as well. In my classroom, I am able to incorporate the use of code.org with students in grades 1-6 along with incorporating in a Robotics/Stem Club before school for sixth grade students. During Robotics, students are aimed with different tasks and have to collaborate and brainstorm to complete those tasks. The students also built and designed their own movable robots from scratch and navigated them through different obstacle courses. The students also have worked with add on activities such as the Lego Mindstorm Space Challenge and even designed their own 3D print job in Tinkercad. On top of teach students in K-6 on the necessary computer skills to make them ready for work career readiness, I also use Common Sense Media to instruct on Digital Citizenship. I also use EverFi and have the students complete the overall interactive modules. I also have the distinct pleasure of teaching technology to the Multi Disability Students. These students have grown and advanced in technology and it is always a joy to see the excitement when coming to class. I use a variety of iPads and Interactive Smartboard lessons to instruct on the specific theme for that week in their regular classroom. Finally, students are in my Computer Tech class learn how to use the Google Suite of programs as well.

DAY 2 – Wednesday – June 27, 2018

8:30AM – 10:00 AM

Opening Keynote – Mark Stehlik

8:30AM – 4:15PM

K-5 Fundamentals – Code.org

DCIU & AIU3 Trainers

Code.org CS Fundamentals training is a one-day workshop for K-5 educators interested in teaching computer science. Workshops cover the CS Fundamentals curriculum and offer supplies needed to teach the course.

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10:15AM – 11:15 AM

Canon-McMillan & Code to the Future - A Lighthouse District for Pennsylvania

Graci Lani

The Canon-McMillan School District has made a commitment of computer science for all students by infusing coding daily into their elementary schools. Believing that coding is as essential as reading, writing and mathematics, administrators will share how they became the first district in Pennsylvania to contract with Code to the Future.

Computer Science Instruction in Early Childhood

OCDEL

Computer Science Instruction in Early Childhood

Computer Science Workforce Needs in Pennsylvania

State and local workforce leaders

Computer Science Workforce Needs in Pennsylvania

Public/Private Partnerships to Make CSforAll Possible: A Philadelphia Case Study

Maggie Deptola

Join Philadelphia Councilman Allan Domb and CEO of Coded by Kids, Sylvester Mobley, as they discuss how they leveraged public/private partnerships to start multi-year coding programs at over 17 schools in the School District of Philadelphia.

Puzzlets

Jacob Hanchar

STEM learning ideas with our platform! Puzzlets is a series of games available on a tablet or computer. The games are designed for students in kindergarten through second grade. Puzzlets’ motto is to “make game time brain time”. Their goal is to excite early learners about STEAM topics “without even realizing it”. The games introduce “21st century habits of mind” to students through games. Topics covered relate to coding, math, and color theory. Puzzlets are designed by Digital Dream Labs LLC.

Teaching Kids to IMPACT Urban Sustainability

Jamie Bracey PhD

The Integrated Model for Producing Agriculturally Competent Technologists (IMPACT) program is an intergenerational pilot in Philadelphia designed to introduce computer science and engineering design to environmental and agriculture CTE students, supporting their interest in career pathways related to urban sustainability - environmental science, bioengineering, water remediation, micro-grids - almost all of it reliant on computer science and information technologies.

DAY 2 – Wednesday – June 27, 2018 (cont.)

10:15AM – 11:15 AM

Tech in the Elementary Schools

Kristen Landers

Over the past seven years, I have incorporated everything from keyboarding and basic word processing to coding and 3D design into my elementary computer classes. I'll share where I obtain resources (many free) as well as how these skills are benefiting the students in their regular education classrooms. Join me to share ideas and resources.

1:00PM – 2:00PM

Everyone Can Code

Apple Inc., Chad Reynolds

Join us to learn about Everyone Can Code, a program designed to give everyone the power to learn, write and teach code with Swift. You'll hear about Swift Playgrounds - free app for iPad for first-time coders with fun and interactive lessons - and explore the accompanying teacher guides. You'll also find out about App Development with Swift, a curriculum for high school and college on Mac that shows students how to create apps from start to finish.

2:00PM – 3:00PM

Computational Thinking

Jonathan Regino

This session will focus on Computational Thinking in the math classroom. We will explore what instruction looks like when involved in Computational Thinking. We will also look at what the research is saying about Computational Thinking in math classes.

From Coding to Cryptography

Kristen Landers

Over the past twenty years, I have taught everything from business math to programming and web design to keyboarding in K-12 public schools. Seven years ago, I began teaching at the elementary level and discovered a need among my rural students, the need to learn cool stuff. I run three different after school programs for our students that cover a wide range of topics. The activities are constantly changing and no two years are the same. We have done everything from baking soda bottle rockets to coding to digital displays to cryptography and most recently ornithology. I would love a chance to share what I do, learn about what others do and collaborate to provide more and more engaging opportunities for our students across Pennsylvania and around the world.

From Hour of Code to Fully Immersive K - 4 Schools

Grace Lani

Canon-McMillan will share how over time, they moved from pockets of innovation and coding to fully immersive coding elementary schools. Administrators will share their Continuum of Computational Thinking and program implementation strategies that helped teachers embrace coding as an essential skill, embedding coding into core curriculum taught by the classroom teacher rather than stand alone technology class.

Computational Thinking for Pre-Readers

Nikki Navta

How and when should youngsters learn how to use computers, learn about computer science, and start developing skills that eventually lead to coding? Parents and teachers are concerned about young kids getting too much screen time. Should they allow any? But will kids fall behind if they aren't allowed much screen time? Good news for concerned adults! It is possible to teach computer science concepts to very young

kids—without using computers at all! Come find out some "unplugged" ways to develop computational thinking skills, and you are welcome to share your ideas as well!

DAY 2 – Wednesday – June 27, 2018 (cont.)

2:00PM – 3:00PM

Hands-On Computer Science Activities

Lisa Kovalchick

This session will provide several examples of hands-on computer science activities that can be carried out in both in-school and out-of-school time settings. Throughout the session, participants will learn best practices for introducing Computer Science concepts to students. A variety of research-based resources will be provided to help recruit and retain students in computing. I am also proposing to have a vendor booth to promote the PA STEM Girls Collaborative Project and the Central and Western PA chapter of the National Center for Women & IT.

The Changing Role of Libraries in the Digital Age

Dauphin County Libraries

The Changing Role of Libraries in the Digital Age

3:15 PM – 4:15PM

Cyber Robotics Coding Competition: Explore/Compete on a coding platform for virtual robotics

Joshua Schuler

The Cyber Robotics Coding Competition (CRCC) is a multi-phase competition consisting of a scaffolded, skills-building Boot Camp, a week of competitive coding, and a live, in-person codeathon. CRCC is best-suited for middle school-aged youth with no previous coding, robotics, or computer science experience... but why should students have all the fun? We will launch an educator-only competition in the weeks before PA CS for All Summit and hold the finals during the session. We will demo the platform for those not competing, share learnings from past CRCC's in New Hampshire, DC, and West Virginia and our plans to bring a state-wide CRCC to Pennsylvania in Fall 2018.

Embedding Coding within the Curriculum

Graci Lani

Canon-McMillan will showcase how classroom teachers K – 12 have embedded coding within their core courses to include Scratch programming, Lego WeDo and EV3 robots, Beebot, drones, spheros, ozobots, robotics, and arduinos.

Engaging Students in 3D Design & Computational Thinking

Josh Beals

3D printing is a medium that allows learners to be engaged in both computational and design thinking experiences. This presentation will focus on two ways to incorporate 3D printing into the classroom. First, 3D printing for learners, which cover topics such as students as designers and the printing process for students, from start to finish. The second way to incorporate 3D printing is to use it to produce instructional aids for students to use in the learning process. Examples of how 3D printing is used in the classroom to support middle school STEM math will be present and showcased. Finally, there will be discussion centered around getting started in 3D printing in the classroom with helpful tips and considerations for the beginner.

TECHNOChicas - Latina Girls in Computer Science

Representatives from TECHNOChicas

TECHNOChicas is a national initiative of the National Center for Women & Information Technology (NCWIT) and Televisa Foundation designed to raise awareness among young Latinas

and their families about opportunities and careers in technology. TECHNOLOchicas uses the powerful stories of Latinas from diverse backgrounds, who are in technology fields, and recognize the power of innovation to change the world. These stories allow girls to see and relate to real-life role models.

DAY 3 – Thursday – June 28, 2018

8:30AM – 9:45AM

BirdBrain

Representatives from South Fayette SD

Robotics for All students

Setting CS Goals for Your School: A How-To with Coded by Kids

Maggie Deptola

In this workshop, learn how to develop CS education goals for your school based on age group, teacher competencies, available equipment, industry trends, and more. Case study - Public/private partnerships to increase CS in public schools with Councilman Allan Domb. He is a big supporter of ours and has used his connections to the business community to help fund our programs at 20 schools in Philadelphia - Presentation on connecting CS education to industry trends (lessons learned from a CTO Roundtable we're holding in May) - Workshop on developing CS ed goals for your school based on age group, teacher competencies, available equipment, etc.

Tech Girls

Amy Cliett

Tech Shopz after school program

Wonder Workshop: Introduction to Coding and Robotics with Dash

Sara Frey

Participants will preview Wonder Workshop's "Teach Wonder" online professional learning program and Dash robot.

10:00AM – 11:15AM

Block it All Out!

Ben Smith

Block based coding is a perfect transition for students to learn how coding can be seen in physical objects that move. Bring your computer and come learn how to use block based coding with different types of robots and apps.

Johnstown SD and the University of Pittsburgh at Johnstown Partnership

Representatives from the SD and the University

Bringing computer science to the Johnstown SD.

Implementation

IHE and District Leaders

Ensuring all students have equitable access to computer science instruction.

Intag

Representatives from Intag

The Internet of things and Aquaponics

12:30PM – 1:30PM

Closing Keynote – Dr. Jamie Bracey & Matt Stem