



The University of Texas at Austin  
Center for STEM Education  
College of Education



Texas  
Regional  
Collaboratives



# We Teach\_CS

Summit 2016

**June 7 - 9, 2016**

**UT Austin Pickle Research Campus**

**Commons Learning Center**

**Austin, Texas**

## TUESDAY, JUNE 7 • 8:00 a.m. - 1:00 p.m.

Time	Presentations/Activities		Room
8:00 - 9:30 a.m.	Registration & Breakfast		Atrium
9:30 - 10:30 a.m.	<b>OPENING SESSION</b>		
	<b>Layering Life: Adventures in 3D Printing, Year 1</b> Joy Schwartz		Big Tex - 1.102
10:30 - 10:45 a.m.	<b>BREAK</b>		
10:45 - 11:45 a.m.	<b>SESSION 1</b>		Level
	A	Code.org's Computer Science Professional Development Programs and Changing Expectations Follow-Up Support	K-12 Balcones - 1.108
	B	Connally High School Students Discuss Health Game Simulation	K-12 Stadium - 1.138
	C	RePublic CS: Computer Science for Educators, Developed by Educators	Middle/High School (Grades 6-12) Longhorn - 1.130
	D	The UTeach Computer Science Program: AP CS Principles Curriculum, PD, & Support	High School Bevo - 1.140
	E	Oracle Academy CS Education Resources	High School Mustang - 1.162
	F	Coding and Computer Science with the TI-84+ Family of Graphing Calculators	Middle/High School (Grades 6-12) Capitol - 1.164
11:45 - 1:00 p.m.	<b>LUNCH / STUDENT PLAYGROUND</b> K-12 students all over Texas are doing amazing things in computer science every day. The WeTeach_CS Playground will be an up close and personal space that highlights some of these teachers and students. Visit the playground to learn directly from the students about their work in video game design, 3D printing, robotics, and coding to determine how you can bring engaging, relevant and empowering opportunities like these to your class or community.		Atrium

### OPENING SESSION

#### Layering Life: Adventures in 3D Printing, Year 1

*Joy Schwartz, Computer Science and Robotics Educator, Hardin-Jefferson High School, Dr. Diana Valdez, Principal, Hardin-Jefferson High School, Tyler Almanza, Student, HJHS, Julian Gonzales, Student, HJHS, Seth Ochoa, Student, HJHS, Izzy Miller, Student & Prosthetic Recipient, Sour Lake Elementary, HJ ISD*

Learn about a global opportunity to use CAD software and 3D printers to make a difference in the lives of all involved—recipients, students, and teachers. We will share how schools can become active participants/contributors in the E-Nable organization which provides low-cost 3D printed prosthetics to children in need.

<http://enablingthefuture.org>

<http://kfdm.com/news/local/students-at-hardin-jefferson-high-school-build-prosthetic-arm-for-little-girl>



### STUDENT PLAYGROUND - Participating School Districts



# SESSION 1 - PRESENTATION DESCRIPTIONS

## A. Code.org's Computer Science Professional Development Programs and Changing Expectations Follow-Up Support

**Phillip Eaglin, Ph.D.**, Founder and CEO, *Changing Expectations* - @peaglin

Come learn how to host FREE Code.org CS workshops provided by Changing Expectations. At the workshops, FREE CPEs for educator re-certification, Code.org printed curriculum, swag, CS resources, unplugged activity supplies, and teacher/student online accounts needed to teach computer science are provided at no cost. Changing Expectations also provides follow-up support for teachers through afterschool, Saturday, school break, and summer coding camps, which integrate web development, DASH robotics, and Arduino electronics projects.

<https://code.org/educate> • <http://changeexpectations.org/stem-camps/>

## B. Connally High School Students Discuss Health Game Simulation

**David Conover**, *Serious Game Design Instructor, Connally High School* - @davidconover

At-risk high school students are challenged by the UT College of Pharmacy to design a video game around the topic of Infectious Diseases and their prevention. Learn how these students blend together game design, design thinking, simulation, biology, the Internet of Things and low-orbiting satellites.

<http://www.ibm.com/developerworks/cognitive/minecraft/index.html>

## C. RePublic CS: Computer Science for Educators, Developed by Educators

**Joanna Klekowicz**, *Director of Computer Science Expansion, RePublic Schools*

CS is a core academic skill all students should learn. Our nation's students deserve a rigorous and inspiring CS program that use languages, skills, and projects to prepare students for college and careers. RePublic's curriculum is vertically aligned from day one to the AP CS Principles exam, and is infused with multiple opportunities for students to collaborate, communicate, and create. The highest leverage in a classroom is the teacher. Under our non-expert dependent model, our robust teacher training includes: online, self-paced video PDs; 3-days of live training, and weekly, synchronous virtual PD. Come learn how to bring CS to your middle school or high school.

<http://www.computersciencelessons.com/>

## D. The UTeach Computer Science Program: AP CS Principles Curriculum, PD, & Support

**Alicia Beth**, *Manager, UTeach Computer Science*, and **Amy Moreland**, *Program Coordinator, UTeach Computer Science, The UTeach Institute* - @uteachcs

Developed by the UTeach Institute at UT Austin, Thriving in our Digital World: AP is a complete AP CS Principles curriculum that introduces students to the big ideas of the discipline through inquiry and project-based learning approaches. This session will introduce curriculum, PD, and support opportunities.

<http://uteachcs.org>

## E. Oracle Academy CS Education Resources

**Tyra Crockett**, *Senior Manager, North America, Oracle Academy*

Oracle Academy works closely with the TRC to provide CS educational resources for faculty. Resources include, PD for teachers, curriculum, and software for classroom use. You are welcome to learn more about how you too can use the Oracle Academy in your classroom.








## F. Coding and Computer Science with the TI-84+ Family of Graphing Calculators

**Michelle Rinehart**, *Secondary Math Consultant, Region 18 Education Service Center* - @HowWeTeach, **Toni Norrell**, *Consultant, @ToniNorrell*, **Nikki Parker**, *High School Teacher, Iraan-Sheffield ISD*

Interested in using technology your students already have (TI-84+ family of calculators) to incorporate coding and CS into your math class? It's easier than you may think! Come explore how to get started – with examples, resources, and hands-on coding time. No programming or computer science background required.

<http://go.esc18.net/coding84>

## LEGEND

	K-5
	K-8
	K-12
	Middle School
	Middle/High School
	High School
	Leadership



TUESDAY, JUNE 7 • 1:00 p.m. - 2:15 p.m.

Time	Presentations/Activities		Room
1:00 - 2:00 p.m.	<b>SESSION 2</b>		Level
	A	Leveraging Mozilla's Thimble Platform to Teach Web Development	Middle/High School (Grades 6-12)
	B	Keeping Up with K5 Computer Science	K-5
	C	Student Privacy: What Teachers and Teacher Leaders Need to Know	Leadership
	D	Active Recruiting: Get Girls into Computing	High School
	E	Using Microsoft Excel to Teach Digital Principles	Middle/High School (Grades 6-12)
	F	Coding and Computer Science with TI-Nspire Technology	Middle/High School (Grades 6-12)
2:00 - 2:15 p.m.	<b>BREAK</b>		

### Participating Organizations



## SESSION 2 - PRESENTATION DESCRIPTIONS

### A. Leveraging Mozilla's Thimble Platform to Teach Web Development

**Ryan Torbey**, K-5 Technology Teacher, Harmony School of Science-Austin - @RyanTorbey

Thimble is a web-based HTML, CSS, and JavaScript editor that shows immediate results to students as they create and edit the code. It is the newest iteration of Mozilla's Webmaker educational initiative. Mozilla is committed to help millions of students move from using the web to making the web. This session will provide you with the resources you need in order to utilize the Thimble platform in your next web design class or after school club.

<https://thimble.mozilla.org/> • <https://teach.mozilla.org/activities>

### B. Keeping Up with K5 Computer Science

**Kimberly Lane**, Blended Learning Specialist, Lancaster ISD and Code.org - @askatechnogirl

It is imperative that students begin learning about computer science in their elementary years. This workshop will get students ready to learn the fundamentals of computer science by using code.org curriculum.

[www.askatechnogirl.com](http://www.askatechnogirl.com) • [www.code.org](http://www.code.org)

### C. Student Privacy: What Teachers and Teacher Leaders Need to Know

**Kobe Pruitt**, Education Policy Manager, Future of Privacy Forum, **Denise Tayloe**, Co-Founder & CEO, Privo, **Victor Valdez**, Executive Director of Technology, Pflugerville ISD, **Beatriz Arnillas**, Director of Instructional Technology, Houston ISD, **Carol Ramsey**, Computer Science Education Consultant, UT Austin Center for STEM Education

Balancing the desire to be cutting edge and innovative with the need to protect student privacy can be challenging, particularly when teachers are unclear about best practices for protecting their student's data and privacy. This panel will discuss practical tools, tips and strategies for implementing innovative technology while protecting student privacy including the Student Privacy Pledge that all companies who handle student accounts or data should adhere to, FERPASHERPA.org, and other resources for evaluating the privacy standards and credentials of your school and ed tech resources.

### D. Active Recruiting: Get Girls into Computing

**Lecia Barker**, Associate Professor and Senior Research Scientist, UT Austin, National Center for Women & IT - @leciab

High school computer science teachers are aware of the exciting careers available for their students, but rarely actively recruit female students into their classes to get them started in those careers. The absence of girls in CS classes is often due to misconceptions and a sense that girls do not belong. This presentation provides a useful, usable structure and resources for developing plans and messages to attract girls into high school CS classes. Attendees will learn to create successful approaches to attract girls and keep track of their results. Participants will receive free, research-based resources from the National Center for Women & IT.

### E. Using Microsoft Excel to Teach Digital Principles

**Stephen Rainwater**, Chandler Professor of Computer Science, The University of Texas at Tyler

Microsoft Excel can be readily employed to teach the basic principles of digital systems. Using only the elementary Boolean functions AND, OR, and NOT, fundamental digital circuits can be virtually constructed by simulating logic gates in simple combinations. These circuits can illustrate how computers perform binary arithmetic, data conversion, data comparison, encoding/decoding, multiplexing, and information storage.

<http://www.uttyler.edu/directory/cs/rainwater.php>

### F. Coding and Computer Science with TI-Nspire Technology

**Toni Norrell**, Consultant - @ToniNorrell, **Michelle Rinehart**, Secondary Math Consultant, Region 18 ESC - @HowWeTeach, **Nikki Parker**, High School Teacher, Iraan-Sheffield ISD

Interested in using technology your students already have (**TI-Nspire calculators**) to incorporate coding and CS into your math class? It's easier than you may think! Come explore how to get started – with examples, resources, and hands-on coding time! No programming or computer science background required.

<http://go.esc18.net/codingNspire>



Time	Presentations/Activities		Room
2:15 - 3:15 p.m.	<b>SESSION 3</b>		Level
	A	APCS4All -- Two Courses, One Purpose, Educating Everyone: APCS Principles and APCS A	High School Balcones - 1.108
	B	Building Computational Thinking Through Computer Science and Coding	K-8 Stadium - 1.138
	C	Programming in the K-5 Classroom: Moving from the Hour of Code to Confident Coders	K-5 Longhorn - 1.130
	D	Using Minecraft Modding in Eclipse to Generate Interest in Java and Computer Science	High School Bevo - 1.140
	E	How to Set Up Classroom for GitHub in 30 Minutes	Middle/High School (Grades 6-12) Mustang - 1.162
	F	TI Codes: Resources for Computer Science Teaching	Middle/High School (Grades 6-12) Capitol - 1.164
3:15 - 3:30 p.m.	<b>BREAK</b>		
3:30 - 4:30 p.m.	<b>KEYNOTE SESSION</b>		
	<b>UT Austin CS Change Maker and CS Mini-Grants Award Presentation</b> Alison Derbenwick Miller  <b>Expanding Access to CS: Why and How</b> Colleen Lewis, Ph.D.		Big Tex - 1.102

**KEYNOTE SESSION**

**UT Austin CS Change Maker and CS Mini-Grant Award Presentation**

*Alison Derbenwick Miller, Vice President, Oracle Academy*

The Center for STEM Education at The University of Texas at Austin is pleased to present two CS Change Maker, and two CS Mini-Grant awards sponsored by Oracle Academy.

<https://academy.oracle.com/>

Please see award recipients and details on page 18 in this program.



**Alison Derbenwick Miller**

**Expanding Access to CS: Why and How**

*Colleen Lewis, Ph.D., Assistant Professor of Computer Science, Harvey Mudd College*

Despite the worldwide underrepresentation of women, at Harvey Mudd College 40% of CS majors are women. At UC Berkeley, the percentage of CS majors who are women has nearly doubled in the last ten years. Professor Colleen Lewis has participated in designing, implementing, and evaluating diversity initiatives at both institutions. She will discuss how the interventions at each institution could be translated for use in K-12 to remove structural and cultural barriers to students' access to CS.



**Colleen Lewis**



## SESSION 3 - PRESENTATION DESCRIPTIONS

### A. APCS4All -- Two Courses, One Purpose, Educating Everyone: APCS Principles and APCS A

**Owen Astrachan**, Professor of the Practice, Duke University - @astrachan, **Lien Diaz**, Senior Director, AP Program, College Board - @Lien\_Diaz

The first offering of APCS Principles in 2016-2017 is the culmination of an eight-year effort to bring a new direction and increased diversity to the study of computer science. But this continues the thirty-two year effort of what is now APCS A to offer engaging, rigorous high school courses that can earn college credit and placement. In this session we'll describe the AP CS Principles course and exam, what makes it unique and attractive to a wide and diverse audience. We will also demonstrate and explain how APCS A courses can leverage the same concepts to possibly expand in a similar way.

### B. Building Computational Thinking Through Computer Science and Coding

**Matthew Cushing**, Associate Director for Elementary STEM Education, Rice University - @matthewcushing

Learn the fundamentals of computational thinking and how these concepts and approaches can be reinforced through coding, CS, and STEM. This session will explore multiple resources in computational thinking, coding, and CS at an introductory level. Come experience how you can engage and develop the thinkers of tomorrow, today through hands-on technology activities. No devices are necessary for this session.

CS Resource Folder - <https://goo.gl/HAI903> • Computational Thinking Resource Folder - <https://goo.gl/Ig0nly>

### C. Programming in the K-5 Classroom: Moving from the Hour of Code to Confident Coders

**Deborah Petty**, Technology Specials Teacher/Tech Apps, Hays CISD

The Hour of Code provides the resources to allow students to solve puzzles that help them understand coding. I have the luxury of offering my K-5 students various vehicles to explore coding throughout the school year. I've integrated coding into the curriculum and I've seen an increase in appropriate risk taking problem solving behavior and collaboration as a result. I've also seen my students gain confidence and become more willing to share what they've created with code.

Google CS First - [https://www.cs-first.com/?utm\\_expid=95153827-4.RZJuoS41RYqV7APMxoWyVA.0](https://www.cs-first.com/?utm_expid=95153827-4.RZJuoS41RYqV7APMxoWyVA.0)

My Google Pride Page - [https://www.cs-first.com/node/56639?utm\\_source=email&utm\\_medium=email&utm\\_campaign=pridepageemail1link2](https://www.cs-first.com/node/56639?utm_source=email&utm_medium=email&utm_campaign=pridepageemail1link2)

Scratch - <https://scratch.mit.edu/> • Tynker - <https://www.tynker.com/>

Khan Academy - <https://www.khanacademy.org/computing/computer-programming>

Project GUTS (Growing Up Thinking Scientifically) - <http://www.projectguts.org/resources>

Star Logo Nova - <http://www.slnova.org/> • Hour of Code - <https://code.org/educate/curriculum/elementary-school>

### D. Using Minecraft Modding in Eclipse to Generate Interest in Java and Computer Science

**Regan White**, Computer Science Teacher, Whitesboro HS - @ReganWhite222

Learn about the creation of Mods in the popular video game Minecraft and the use of Eclipse as a Java IDE, including how to set up Forge and the development environment. The presentation is specific to PC; it will require the download and installation of the Forge API and the latest version of the Eclipse development environment. Instructors will be able to set up a Minecraft modding environment and begin the process of teaching modding.

### E. How to Set Up Classroom for GitHub in 30 Minutes

**Scott Sanicki**, Education Community Manager, GitHub - @scottsanicki

Real-world, industry tools connect students to the practice of being a technologist. But as instructors, our classrooms have different needs--some assignments require privacy, and we need to assess student work. When we use real-world tools, we often end up hacking the features, or re-purposing them to suit our needs. This talk will address how the needs of the classroom drove the design of Classroom for GitHub, a tool to manage technical assignments. We will walk through the design principles, best practices, and results from the first semester of using Classroom for GitHub at The Ohio State University. In addition to sharing instructor insights, we will demonstrate how to set up your course and impart best practices to help your first semester with this new tool successful.

GitHub Education: Learn about GitHub's available academic discounts - <https://education.github.com>

Classroom for GitHub: GitHub's open source tool for managing technical assignments - <https://classroom.github.com>

### F. TI Codes: Resources for Computer Science Teaching

**Nikki Parker**, High School Teacher, Iraan-Sheffield ISD, **Toni Norrell**, Consultant - @ToniNorrell, **Michelle Rinehart**, Secondary Math Consultant, Region 18 ESC - @HowWeTeach

Introduce students to the basics of programming, a critical skill for 21st century careers, using the calculators they carry in their backpacks every day. Come explore the wealth of resources that Texas Instruments has compiled for using **TI-84+ or TI-Nspire** calculators to teach coding and computer science. Resources include 10 Minutes of Code, Beyond the Basics, TI software programs, and the new TI-Innovator.

<http://education.ti.com/ticodes>



## WEDNESDAY, JUNE 8 • 8:00 a.m. - 11:00 a.m.

Time	Presentations/Activities		Room
8:00 - 8:30 a.m.	Breakfast & Networking		Atrium
8:30 - 9:30 a.m.	<b>OPENING SESSION</b>		
	<b>Panel Discussion — WeTeach_CS: Lessons Learned from Successful Business Partnerships</b> Carol Fletcher, Ph.D., Denise Hobbs, Erin Mindell Cannon, Lori Ham, Tracy King Moderator: Sean Duffy		Big Tex - 1.102
9:30 - 9:45 a.m.	<b>BREAK</b>		
9:45 - 10:45 a.m.	<b>SESSION 4</b>		Level
	A	How to Plan and Run Summer Computing Camps	K-12
	B	Student Presentations in Scratch: Making Slideshows and Animations	K-8
	C	CS For All - Implementing This Initiative Via Computational Thinking	K-12
	D	Tips For First Time Computer Science Teachers	High School
	E	Transform your Classroom into a 21st Century Learning Environment through Project-Driven Learning	Middle/High School (Grade 6-12)
	F	Coding with the mBot Robot - Scratch and Arduino	K-8
10:45 - 11:00 a.m.	<b>BREAK</b>		

### OPENING SESSION

#### Panel Discussion — WeTeach\_CS: Lessons Learned from Successful Business Partnerships

- **Carol Fletcher, Ph.D.** – Deputy Director, Center for STEM Education, UT Austin College of Education
- **Denise Hobbs** – Regional Director, North America, Oracle
- **Erin Mindell Cannon** – Program Manager, Google
- **Lori Ham** – Education Sales Director, Microsoft
- **Tracy King** – Vice President Public Affairs, AT&T

Moderated by:

**Sean Duffy** – Founder, EdTech Austin

CS for All isn't just a slogan. Broadening and diversifying access to high quality CS education is vital to the future success of American businesses. Join this panel of amazing female high-tech executives to learn more about how their companies are partnering with entities like UT Austin to help K-12 educators realize the vision of CS for ALL. Moderated by Sean Duffy of EdTech Austin, panelists will share examples of student and teacher programs sponsored by Oracle, Google, AT&T and Microsoft that support the WeTeach\_CS project and much more.



**Carol Fletcher**



**Denise Hobbs**



**Erin Mindell Cannon**



**Lori Ham**



**Tracy King**



**Sean Duffy**





# SESSION 4 - PRESENTATION DESCRIPTIONS

## SESSION 4

### A. How to Plan and Run Summer Computing Camps

**Krishnendu Roy, Ph.D.**, Associate Professor, Valdosta State University

This session will provide details on how to plan and run non-residential, week-long computing summer camps for 4–12 grade students. The session will include details about both the logistical aspects of organizing a camp as well as technical curriculum. We will present information about various computing related tools like Scratch and App Inventor that can be used in a camp setting. We will also talk about logistical details like application forms, a timeline, sample agendas, sample flyers, budget plans, a planning checklist, suggested projects, and more.

### B. Student Presentations in Scratch: Making Slideshows and Animations

**Colleen Lewis, Ph.D.**, Assistant Professor of Computer Science, Harvey Mudd College - @CSTeachingTips

Scratch is a programming language designed to help kids learn computer science, but a lot of teachers use it across the curriculum to have students synthesize and present information. In this workshop you'll learn how to use Scratch as a medium for students' presentations in other disciplines. The workshop will include an introduction to the relevant Scratch content, where students get stuck, classroom management strategies, and how to connect students' experiences with the work of professional computer scientists. The workshop is appropriate for teachers with no or a little previous Scratch experience.

### C. CS For All - Implementing This Initiative Via Computational Thinking

**Joe Kmoch**, Computer Science Education Consultant, Milwaukee Public Schools - @joekmoch, **Karen North**, CS Education Consultant

Computational Thinking (CT) has its roots in CS and can help us infuse CS into virtually every corner of the curriculum. We'll explore what CT is and how you know when you're doing CT. We'll look at some examples of CT infused into the curriculum and resources to move in that direction. In addition we'll discuss using CT concepts and dispositions to help get more students excited about exploring CS much further. We want to build creators and innovators of technology as well as astute users of technology.

### D. Tips For First Time CS Teachers

**John Owen**, CS Outreach and Technical Project Development, UT Austin Center for STEM Education

Now that you have passed the test and earned your CS 8-12 Certification, it is time to prepare to teach CS in the classroom. Come and learn helpful hints, useful tips, and valuable advice from someone who has done this for 20+ years and knows the ropes. Learn about what to do and what not to do in the classroom, as well as learn about various curriculum packages suitable and available for use.

### E. Transform your Classroom into a 21st Century Learning Environment Through Project-Driven Learning!

**Kevin Nolten**, Director of Academic Outreach, Cyber Innovation Center (CIC)

The Department of Homeland Security has identified the CIC's programs as the national model for cyber education, thus allowing free access to a robust library of curricula that includes STEM: Explore, Discover, Apply; Cyber Literacy; Cyber Science and much more. During this session, attendees will learn about the framework and structure of the CIC's curricula and experience a sampling of modules that provide innovative ways to engage students. The resources will empower teachers to transform their classroom into 21st century learning environments that provide greater opportunities for learning and introduce students to potential Cyber and STEM career fields.

[www.NICERC.org](http://www.NICERC.org)

### F. Coding with the mBot Robot - Scratch and Arduino

**David Walling**, President, SmartSchool Systems

Hands on coding with the mBot. Code in Scratch and see the equivalent code in Arduino at the same time. A great transition from icon-driven coding to script. mBot is assembled in about 30 minutes, but expansion kits can spark creativity to design additional functions and features. Design and control built-in sensors and motors to respond autonomously. Control mBot with the included remote with pre-set programs or drive it with an iOS or Android device. Coding is easy with apps for iOS, Android, PC and Mac.

<http://www.smartschoolsystems.com/mBot-Programmable-Robot/320>



Time	Presentations/Activities		Room
11:00 a.m. - 12:00	<b>SESSION 5</b>		Level
	A	Introduction to MIT App Inventor	Middle/High School (Grade 6-12)
	B	Why Does Scratch Do That? Common Challenges for Teachers and Students	K-8
	C	Let's Learn to Teach Code (Using Plugged and Unplugged Activities!)	K5
	D	Capturing Students' Attention Using Interactive Notebooks when Attempting to Recruit and Retain a More Diverse Group of Learners	Middle/High School (Grade 6-12)
	E	Taking the National Model for Computer Science Education and Bringing it to the Texas Classroom	High School
12:00 - 1:30 p.m.	<b>LUNCH</b>		Atrium
1:30 - 1:45 p.m.	<b>BREAK</b>		

**GET CS  
CERTIFIED!**

## WeTeach\_CS Certification Prep – Online Course

**WeTeach\_CS Certification Prep** is a comprehensive, six-week program that prepares teachers to take and pass the Texas Education Agency's 8-12 Computer Science Certification Test. It reviews all the main concepts covered in the three certification domains: Software Design and Development, Programming Language topics, and Technology Applications. Educators with at least some prior experience in coding or programming interested in becoming certified to teach Grades 8-12 Computer Science are eligible to attend.

- To determine eligibility to take the TExES 8-12 CS Certification Exam, please review the parameters by visiting: <http://cms.texas-ets.org/texas/registration-information/approval-test/>
- Upon passing the TExES 8-12 CS Certification Exam, application must be made for certification at: [http://tea.texas.gov/Texas\\_Educators/Certification/Initial\\_Certification/Becoming\\_a\\_Classroom\\_Teacher\\_in\\_Texas/](http://tea.texas.gov/Texas_Educators/Certification/Initial_Certification/Becoming_a_Classroom_Teacher_in_Texas/)

Following the successful model of the WeTeach\_CS face-to-face training course, TRC and UT Austin Center for STEM Education announce a free, online version offering the same modules but at the convenience of your own desktop.

This online course offers the opportunity to increase the number of certified computer science teachers in Texas and is freely available to any educator, thus bringing CS education professional development to every school district in the state.

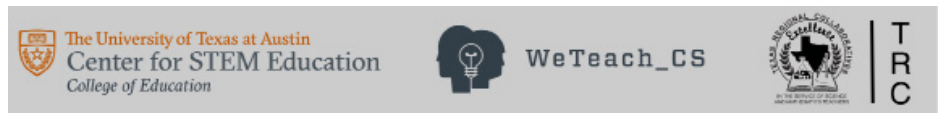
As an extra incentive, after the exam is passed and teachers obtain the certification, a \$1,000 stipend will be awarded by TRC thanks to support from 100Kin10 and TEA. (Funding is limited, on a first-come first-served basis.)

### Register Now!

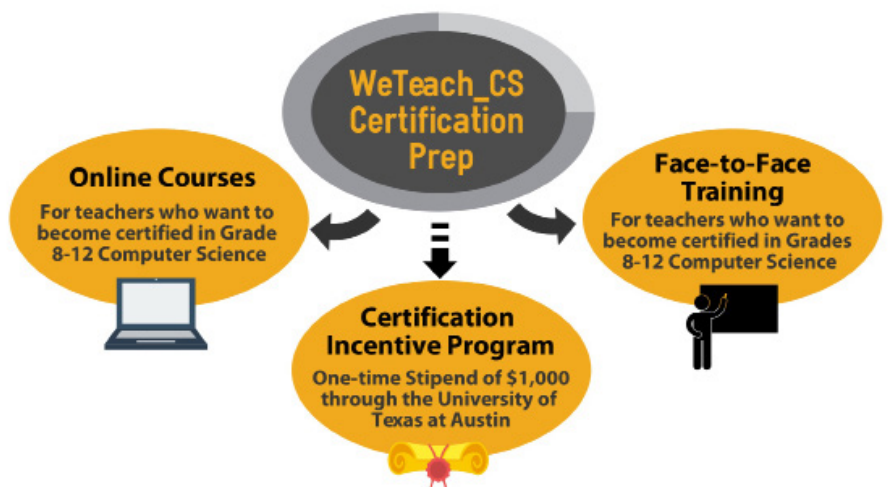
<http://thetrc.org/cert-prep>

Registration is now open for the WeTeach\_CS Preparation Course that begins **June 14** and runs through **July 25**.

Contact: [weteachcs@austin.utexas.edu](mailto:weteachcs@austin.utexas.edu)



## WeTeach\_CS Certification Prep



## SESSION 5 - PRESENTATION DESCRIPTIONS

### A. Introduction to MIT App Inventor

**Krishnendu Roy, Ph.D.**, Associate Professor, Valdosta State University

In this session the participants will learn about MIT App Inventor. App Inventor is a free programming environment to create Android apps. App Inventor is mainly geared towards high school and middle school students who are exploring computing and programming perhaps for the first time. In this session teachers will be introduced to the basic App Inventor interface, the various components that can be added to an app, and the main app creation workflow. This session will also briefly discuss various App Inventor related curriculum resources that teachers can use in their classroom.

### B. Why Does Scratch Do That? Common Challenges for Teachers and Students

**Colleen Lewis, Ph.D.**, Assistant Professor of Computer Science, Harvey Mudd College - @CSTeachingTips.org

Sometimes students have no trouble with a topic and are completely baffled by a similar topic. This workshop will cover common misconceptions within the programming language Scratch, pitfalls students will face when making various games in Scratch, and how projects in Scratch connect to central computer science topics. This workshop will be most valuable to teachers who have some previous Scratch experience.

### C. Let's Learn to Teach Code (Using Plugged and Unplugged Activities)

**Shaina Glass**, Instructional Technology Specialist, Aldine ISD - @Svicglass

This session will give educators and content-area teachers (librarians, tech-ed specialists, etc.) an introduction to computer science basics in a format that's fun and accessible to the youngest learners (grades K-5). The session will cover content for our elementary school curriculum, and teachers will get an opportunity to learn how to receive the supplies they need to teach the courses - at no cost. This session will include hands-on experiences, collaboration with colleagues, and is accessible to teachers with any or no prior knowledge of computer science.

<http://letsteachcode.weebly.com/>

### D. Capturing Students' Attention Using Interactive Notebooks when Attempting to Recruit and Retain a More Diverse Group of Learners

**Deborah Kariuki**, Computer Science Instructor, Westwood High School - @dkkariuki

How can computer science courses be made more appealing to a more diverse groups of students? CS is not all about coding. Can tools be offered to captivate a variety of students and retain them as well? Absolutely! Using interactive notebooks help students take ownership of their own learning and keep them interested now and in the future. Presenting computational thinking and its use in everyday life is a captivating way to engage many types of students.

### E. Taking the National Model for Computer Science Education and Bringing it to the Texas Classroom

**Tommy Gober**, Curriculum Development Specialist, Cyber Innovation Center

During this session, educators will be introduced to strategies for teaching CS as a hands-on, projects-based curriculum that utilizes a unique computing platform to engage students in an immersive exploration of the breadth of computer science. Through a puzzle-based learning approach that is strategically meshed with candid discussions of the philosophy and expectations that underlie the learning process, a foundation of problem solving and critical thinking is laid upon which the four major themes of computer science are then iteratively built as pillars: algorithms, computer programming, data structures, and computer architecture. Teachers will also receive free computer science curricula.

[www.NICERC.org](http://www.NICERC.org)

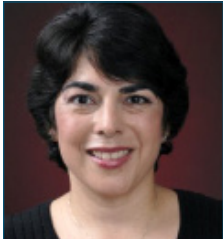


Time	Presentations/Activities		Room
1:45 - 3:45 p.m.	<b>SESSION 6</b>		Level
	A	Going Beyond the Basics with Drag-and-Drop Coding	K-12
	B	Bootstrap: Achieving Equity and Scale through Algebraic Programming	Middle/High School (Grade 6-12)
	C	Bee-Bots Dancing to Bring Computer Science For All to Young Learners	K-5
	D	Exploring Computer Science - How Equity and Access Play a Role in Learning Computer Science	High School
	E	Mobile CS Principles: Learning CS By Building Socially Useful Mobile Apps	High School
	F	IBM Bluemix and Design Thinking: An Innovation Platform for Computer Scientists	High School
3:45 - 4:00 p.m.	<b>BREAK</b>		
4:00 - 5:00 p.m.	<b>GENERAL SESSION</b>		
	<b>The Computers: The Remarkable Story of the ENIAC Programmers Screening and Q&amp;A</b> Kathy Kleiman		Big Tex - 1.102
5:00 - 7:00 p.m.	<b>WeTeach_CS Summit Mixer</b> Lone Star Court, Water Trough Lounge (10901 Domain Drive, Austin, TX, 78758) <i>Appetizers will be served • Cash bar available</i>		Offsite

**GENERAL SESSION**

**The Computers: The Remarkable Story of the ENIAC Programmers Screening and Q&A**

Kathy Kleiman, Founder, ENIAC Programmers Project



Kathy Kleiman



In 1946, six brilliant young women programmed ENIAC, the world’s first all-electronic, programmable computer as part of a secret US Army WWII project. They programmed a ballistics trajectory calculus equation without programming languages (for none existed) and it worked perfectly. Yet, when ENIAC was unveiled to the press and public in 1946, the women were never introduced. They became invisible.

Kathy Kleiman located and interviewed the ENIAC programmers and in 2013 teamed up with award-winning PBS producers Jon Palfreman and Kate McMahon to tell this incredible story. *The Computers* premiered at the Seattle International Film Festival and Inspirefest 2015 in Dublin.

Featuring Movietone footage of the 1940s and never-before-seen interviews with the ENIAC programmers, “*The Computers*” is a beautifully-produced 20-minute documentary designed to fit into classroom schedules for high schools and middle schools. It is the powerful story lost for 70 years of the founding of computing technologies by six incredible young women everyone should know.

**WeTeach\_CS Summit Mixer**

Join us at the Domain - Lone Star Court, Water Trough Lounge (10901 Domain Drive, Austin, TX, 78758) - for an opportunity to network with WeTeach\_CS Summit attendees at a uniquely Austin locale!



## SESSION 6 - PRESENTATION DESCRIPTIONS

### A. Going Beyond the Basics with Drag-and-Drop Coding

**Ryan Torbey**, K-5 Technology Teacher, Harmony School of Science-Austin - @RyanTorbey

Your students loved Hour of Code, but now what? This session will give you an in-depth look into the world of advanced drag-and-drop coding. We will make a calculator program in Scratch, learn the fundamentals of recursion in Lightbot, and explore the Code.org courses. Additionally, we will dive into Code.org's newest offering, App Lab, which seamlessly bridges drag-and-drop coding with written lines of JavaScript.

<https://scratch.mit.edu/> • <https://lightbot.com/hocflash.html> • <https://studio.code.org/> • <https://code.org/educate/applab>

### B. Bootstrap: Achieving Equity and Scale through Algebraic Programming

**Emma Youndtsmith**, Regional Manager, Bootstrap - @Bootstrapworld

Current efforts to develop computing courses face difficult choices between equity and scale. Opt-in classes attract narrow student populations, but mandating CS requires vast resources. Bootstrap is a curricular module which integrates CS and algebraic content through programming video games. The first module can be delivered by math teachers inside existing, mainstream math classes, and later modules bridge both teachers and students toward AP-level concepts. This session illustrates Bootstrap's research-backed approach to program design, in which students use rigorous software engineering techniques to create video games while reinforcing algebra. Participants will receive hands-on exposure to many activities in the Bootstrap curriculum.

Bootstrap website - [www.bootstrapworld.org](http://www.bootstrapworld.org) • Bootstrap materials - [www.bootstrapworld.org/materials](http://www.bootstrapworld.org/materials)

### C. Bee-Bots Dancing to Bring Computer Science For All to Young Learners

**Karen North**, Computer Science Education Consultant, Code.org / AAUW / NCWIT - @TedE4CS

Every elementary school in Spring Branch ISD has a 6-pack of Bee-Bots and software to practice spelling and math skills by coding a floor robot with four simple commands. Building Connections & Understanding + Real-world Application is a mathematics practice to prepare students to use patterns and relationships to discover the connections between mathematical concepts and their application to real-world models. Bee-Bots can help build those connections! Come Dance with the Bees and See how you can use these and other unplugged activities to build computational thinking skills in the lower grades.

Bee-Bot Programming Professional Development - <http://beebot.edublogs.org/> • Code Math TEKS - <http://codemathteks.edublogs.org/>  
Computer Science K-5 - [www.build-a-brain.com](http://www.build-a-brain.com)

### D. Exploring Computer Science - How Equity and Access Play a Role in Learning Computer Science

**Nicole Reitz-Larsen**, ECS Facilitator, Educator, **John Landa**, CS Coach in LAUSD, Exploring Computer Science (ECS) - @ExploringCS

Are you interested in increasing the numbers of students in your CS courses? Would you like to hear some recruiting strategies that help bring more diverse students to be part of your program? Come learn how the Exploring Computer Science (ECS) team has been providing PD that offers an intensive and focused learning experience for teachers.

In this session, teachers will get a hands on experience of pedagogy and strategies that successfully engage all students in learning thorough exploration of engaging and accessible topics that are inquiry-based using real world problem solving that is culturally relevant, addresses social and ethical issues, and teaches students how to become members of a "computing community of practice." This is a great opportunity to see how Exploring CS lines up with the Fundamentals of Computer Science course in Texas, and how you can use the curriculum for your course.

<http://exploringcs.org>

### E. Mobile CS Principles: Learning CS By Building Socially Useful Mobile Apps

**Ralph Morelli**, Professor of Computer Science, **Pauline Lake**, Project Administrative Assistant, Trinity College (CT)

The Mobile CS Principles (Mobile CSP) project is an National Science Foundation-funded effort to provide curriculum and professional development for the College Board's (CB) new CS Principles Advanced Placement course. The CB-endorsed Mobile CSP curriculum is based on a mobile computing theme: students learn the principles of CS by designing and building socially useful mobile apps using App Inventor, a visual blocks-based programming language for Android devices. In addition to demonstrating the power and accessibility of App Inventor, the workshop will provide an overview of the Mobile CSP curriculum and supporting materials for teachers (lesson plans, rubrics, exams, etc.), and will also discuss the PD opportunities for teachers who wish to adopt the curriculum. The Mobile CSP curriculum is openly licensed and is freely available online.

The Mobile CSP website - <http://mobile-csp.org> • Student-facing curriculum - <https://ram8647.appspot.com/mobileCSP>

Teacher-facing resources - [https://ram8647.appspot.com/teach\\_mobileCSP](https://ram8647.appspot.com/teach_mobileCSP)

### F. IBM Bluemix and Design Thinking: An Innovation Platform for Computer Scientists

**Enrique Kortright**, Senior Academic Program Manager, **Deniz Gokseven**, Strategist, Analytics Strategy & Initiatives, IBM

Are you aware that Uber is the world's largest taxi company, but has no vehicles? Or that Alibaba is the world's most valuable retailer, but has no inventory? Many of the world's great companies are software-only enterprises. In this interactive session, we will look at two IBM offerings designed for the computer scientists and other practitioners who will build the next big thing. Bluemix is IBM's Cloud developer platform that has many of the building blocks needed to create the next generation of apps and services. The toolbox provided by Bluemix, while essential, is not enough. How do we build the right application? IBM Design Thinking is an approach to applying design thinking at the speed and scale the modern enterprise demands. In the first hour of the session, we build an app in Bluemix step-by-step using IBM's Node-RED visual programming language. In the second hour, we will go through a mini-Design Thinking workshop.



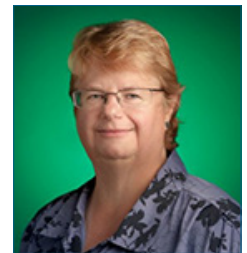
Time	Presentations/Activities		Room
8:00 - 8:30 a.m.	Breakfast & Networking		Atrium
8:30 - 9:30 a.m.	<b>OPENING SESSION</b>		
	<b>Computational Thinking as a 21st Century Skill</b> Chris Stephenson		Big Tex - 1.102
9:30 - 9:45 a.m.	<b>BREAK</b>		
9:45 - 10:45 a.m.	<b>SESSION 7</b> Level		
	A	Experience with Jeroo and Racket (Picturing Programs) for Middle School; CSP & Pyret for Upper School	Middle/High School (Grades 6-12)
	B	Finch - For K-12, Using Snap, Scratch, or Java (or one of 10 other programming languages)	K-12
	C	Helping Students to Construct Content Knowledge and Develop Process Skills with POGIL	Middle/High School (Grades 6-12)
	D	TEALS - Computer Science in Every High School	High School
	E	Coding with Kids	K-5
10:45 - 11:00 a.m.	<b>BREAK</b>		

**OPENING SESSION**

**Computational Thinking as a 21st Century Skill**

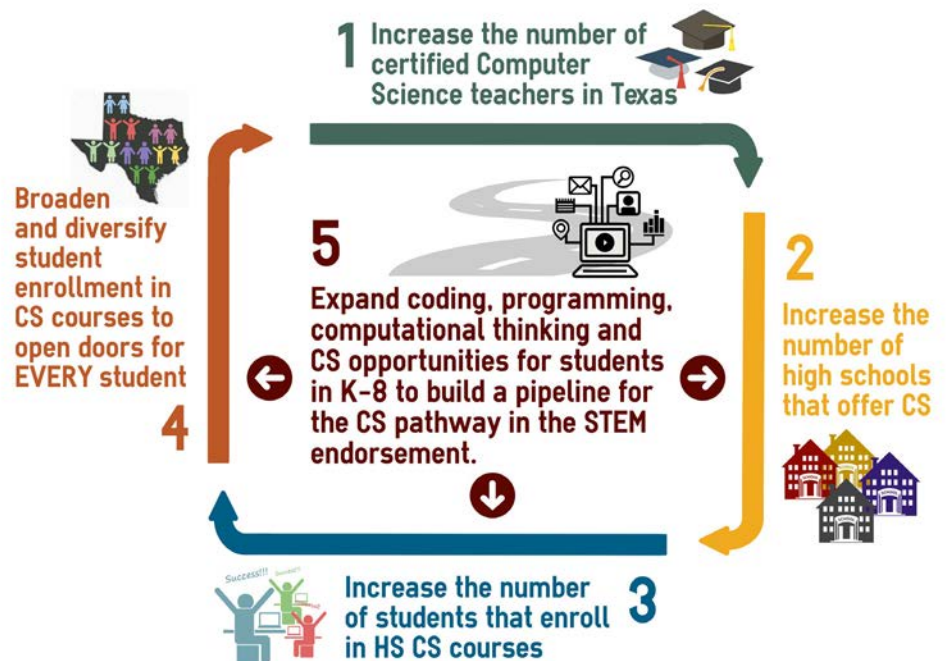
Chris Stephenson, *Head of Computer Science Education Programs, Google*

Is Computational Thinking (CT) an old idea in a new package or a profoundly 21st Century creation? This session will explore the different definitions of CT, some of the driving forces behind it, and how these forces are impacting curriculum design and classroom practice. It will look at the challenges of implementing CT into the classroom and share some new Google resources that might make this easier. We will also discuss how the AP CSA and CSP courses complement each other and their role and impact in expanding and diversifying students studying CS.



**Chris Stephenson**

**WeTeach\_CS**  
**Measurable Outcomes**



## SESSION 7 - PRESENTATION DESCRIPTIONS

### A. Experience with Jeroo and Racket (Picturing Programs) for Middle School; CSP & Pyret for Upper School

**Bill Dunklau**, Department Chair, Lakehill Preparatory School

Jeroo and Racket (Picturing Programs) are useful for creating and sustaining interest in programming at 7-8 grade levels. They are text based languages, somewhat more “realistic” than drag-and-drop, block-based languages. Four virtual marsupials, each with pouches for carrying flowers, hop around Santong, a 24x24 island in the South Pacific. Creatures can plant, pick, give flowers as tokens of friendship, and toss flowers into nets to disable them. For the first week, Jeroo names are feminine (Jamie, Janie, Jeri, Joni, etc.). The element of story (visiting, sharing a “moment,” escaping, planting a maze or formal garden) is always available. With Picturing Programs corporate logos, flags, designs, and artwork are possible.

Jeroo programming language - [www.jeroo.org](http://www.jeroo.org)

Racket (Picturing Programs) language - <http://racket-lang.org/> and [www.picturingprograms.com/](http://www.picturingprograms.com/)

AP CSP - [www.apcsp.org](http://www.apcsp.org) • Pyret programming language - [www.pyret.org](http://www.pyret.org)

Earsketch - <http://earsketch.gatech.edu/landing/> • ChuckK - <http://chuck.cs.princeton.edu/>

### B. Finch - For K-12, Using Snap, Scratch, or Java (or one of 10 other programming languages)

**Jo Ray Van Vliet**, Towns County High School Robotics Coach - Volunteer, **Lisa Ledford**, Math and Science Lab Teacher, Towns County Elementary, **Debi Williams**, Computer Science teacher, Towns County Elementary

Carnegie Mellon loaned us 30 Finch robots for two months last year. We had no experience with Finch before, but were able to easily develop fun programming activities, as well as use activities provided on the Finch website. Our students in grades K-12 loved programming and running the Finch and grasped the programming concepts quickly. We would like to share our lesson plans and lessons learned and give attendees an opportunity to program and run a Finch. Activities we did included programming Finch to dance to music, draw painting, be steered by using a flash light and the Finch’s light sensors, and more. Our teachers liked the Finch because they are sturdy, don’t require charging, and can be programmed in several different languages.

The Finch in 3 Minutes video - <https://www.youtube.com/watch?v=8Imq5lo3HuE>

Carnegie Mellon’s Finch Robot - <http://www.finchrobot.com/>

### C. Helping Students to Construct Content Knowledge and Develop Process Skills with POGIL

**Chris Mayfield**, Associate Professor of CS, Muhlenberg College, **Tammy Pirmann**, District Coordinator for Computer Science and Business, School District of Springfield Township

This session will introduce Process Oriented Guided Inquiry Learning (POGIL) and how it can be used to teach programming, CS Principles, and other topics in CS. POGIL is an evidence-based instructional strategy in which students work during class on activities that are specifically scripted to guide them to create their own understanding of key concepts, and to develop key process skills like communication and problem solving. POGIL has a 20 year history of NSF support, and numerous studies have shown that it increases student learning and other outcomes. The session will use POGIL-style activities to introduce key concepts and practices.

<http://cspogil.org> • <http://pogil.org>

### D. TEALS - Computer Science in Every High School

**John Jannone**, Regional Manager, TEALS - [@tealsk12org](https://twitter.com/tealsk12org)

TEALS (Technology Education and Literacy in Schools) is an industry-wide initiative with a proven track record that engages local communities to participate in bringing rigorous computer science courses to high schools across the country. TEALS helps high schools start and grow a sustainable CS program and build CS teacher capacity by integrating professional software engineers into the classroom in a co-teaching model with a classroom teacher. Within two years, committed partner schools can independently sustain CS courses based on UC Berkeley and University of Washington curricula. Come learn about our expansion efforts and the local high schools participating this year.

[www.tealsk12.org](http://www.tealsk12.org)

### E. Coding with Kids

**Stephanie Argueta**, Digital Learning Coach at Sheldon ISD - [@sargueta12](https://twitter.com/sargueta12)

Learn how to start a coding club on your campus. Get ideas on how to use unplugged lessons and coding devices such as Sphero SPRK, BB-8, Blue-bots, EV3 and Dash to teach your students how to code. This session is for beginning to intermediate teachers who are looking for ways to start coding with kids on their campus.



## THURSDAY, JUNE 9 • 11:00 a.m. - 3:15 p.m.

11:00 a.m. - 12:00	<b>SESSION 8</b>		Level	
	A	Panel: Are High School Students Prepared for CS in College?	High School	Balcones - 1.108
	B	Computer Science for all SUBJECTS - Algorithmic and Data Engagement Applied to the Four Cores	K-12	Stadium - 1.138
	C	Making Sense of Texas Computer Science Requirements and Options	Middle/High School (Grades 6-12)	Longhorn - 1.130
	D	Integrating Computer Science into Science with Project GUTS	Middle School (Grades 6-8)	Bevo - 1.140
	E	Sewing, Circuitry, and CS - Guiding Students in Designing, Making, and Programming an Interactive E-textile Creation	High School	Mustang - 1.162
12:00 - 1:30 p.m.	<b>LUNCH</b>			Atrium
1:30 - 1:45 p.m.	<b>BREAK</b>			
1:45 - 3:15 p.m.	<b>CLOSING SESSION</b>			
	<b>WeTeach_CS</b> Carol Fletcher, Ph.D.  <b>Securing Resources to Bring STEM Instruction to the Next Level</b> James Walter Doyle  <b>Awesome Door Prizes</b> ( <i>Must be present to win</i> )			Big Tex - 1.102

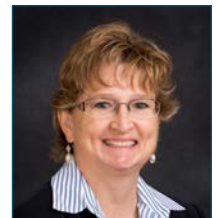
### CLOSING SESSION

#### **WeTeach\_CS and CS4TX**

**Carol Fletcher, Ph.D.**, *Deputy Director, Center for STEM Education, UT Austin College of Education*

Learn about all the opportunities for amazing professional development for K-12 CS teachers across Texas as part of the WeTeach\_CS project. We will also discuss the new Texas-wide initiative to promote Computer Science for ALL, CS4TX, and how you can get involved in your region.

[www.weteachcs.org](http://www.weteachcs.org)  
[www.cs4tx.org](http://www.cs4tx.org)



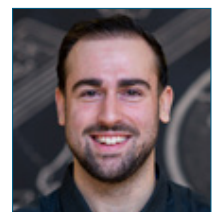
**Carol Fletcher**

#### **Securing Resources to Bring STEM Instruction to the Next Level**

**James Walter Doyle**, *Director of Policy and Expansion, DonorsChoose.org*

This hands-on workshop will help teachers navigate DonorsChoose.org, a website that allows teachers to request the materials they need for the classroom. Those requests are then funded by both citizen and corporate donors. Teachers will be guided through the process, and then provided with “insider” tips on how to guarantee their project will be funded thanks to the numerous funding opportunities that are available. Bring a laptop and put your creative hats on!

<https://www.donorschoose.org/>



**James Walter Doyle**





## SESSION 8 - PRESENTATION DESCRIPTIONS

### A. Are High School Students Prepared for CS in College?

**Wes Monroe**, CS Outreach and Technical Project Development, UT Austin Center for STEM Education - @purpleHey, **Calvin Lin, Ph.D.**, Professor, UT Austin, Department of Computer Science, **Jey Verrasamy, Ph.D.**, Sr. Lecturer, UT Dallas, Department of Computer Science, **Tiffani Williams**, Associate Professor, Texas A&M, Department of Computer Science  
CS technology moves fast. How good of a job have our public schools done in prepare students for CS in college? What are college admissions teams looking for in prospective students? What advise might CS professors give to schools, teachers and students that want to be adequately prepared for the challenges of CS in college? How well do students feel they were prepared for success in CS in middle school or high school? What advice do students have for schools, teachers and prospective students? This panel will discuss these questions and more with the hope of giving the audience concrete ideas on where they might affect change and improve systems so that students are prepared for success in college.

### B. Computer Science for all SUBJECTS - Algorithmic and Data Engagement Applied to the Four Cores

**Joon Yee Chuah**, Education and Outreach Coordinator, Texas Advanced Computing Center, **Jenna Martin**, History Teacher, Kealing MS, AISD

CS, like any skill or subject area, is only retained by students through application outside of their CS classroom. CS teachers often find that they are the sole practitioner of the discipline at their school. This session presents examples of how CS can be applied to English, Social Studies, Science and Mathematics that will demonstrate the importance of CS as the future skill for other disciplines. Rather than being the lone programmer, the CS teacher can be an instructional lead in applied data science.

### C. Making Sense of Texas Computer Science Requirements and Options

**Hal Speed**, Founder, TACSE - @HalSpeed

Tech Apps, CTE, endorsements, LOTE, teacher certification, math credit, AP, curriculum requirements, pathways, coherent sequence, etc. -- this session will clearly explain the state requirements concerning CS and answer any lingering questions you may have about teaching CS-related courses in Texas.

[http://www.slideshare.net/hal\\_speed](http://www.slideshare.net/hal_speed)

### D. Integrating Computer Science into Science with Project GUTS

**Melody Hagaman**, Program Coordinator, Project GUTS - @ProjectGUTS

Computational Thinking (CT) is a key ingredient in technology-enabled discovery and innovation. The presenters will discuss the ways in which the NGSS and CS overlap and intersect, including through the NRC Scientific and Engineering Practices and NGSS Performance Expectations related to modeling, simulation, and CT. K–12 educators and policy makers will explore ways they can support student learning about computational thinking in the science classroom. The presenters will provide tips on where to find supporting resources, and will introduce Project GUTS' CS in Science curriculum through participation in hands-on and programming activities that develop students' computational thinking.

Project GUTS Website - <http://projectguts.org/>

### E. Sewing, Circuitry, and CS - Guiding Students in Designing, Making, and Programming an Interactive E-textile Creation

**Jo Ray Van Vliet**, Towns County High School Robotics Coach - Volunteer

Having seen videos about the uses of e-textiles/smart textiles in healthcare, fitness, the military, NASA, and fashion, our high school CS class students wanted to create their own interactive e-textile "stuffed monster" using LEDs, conductive thread, a buzzer, a LilyPad microprocessor, and Arduino for programming. This session takes attendees through the three projects in the unit and provides lesson plans, sample projects, code, and materials and directions to make the first two projects (greeting card and E-bracelet, badge or ornament).

Sew Electric - <http://sewelectric.org/> • Student Presents Final Project and Notebook - <https://www.youtube.com/watch?v=ajyiVaKcPJ0>  
Future Nurse and her "Monster" - <https://www.youtube.com/watch?v=eWIo-aWw-qQ>



# CS CHANGE MAKER AND CS MINI-GRANT AWARDS

Presented on Tuesday, June 7, at 3:30 p.m.,  
by Alison Derbenwick Miller, Vice President, Oracle Academy

## 2016 UT Austin CS Change Maker Awards

The UT Austin Center for STEM Education launched its inaugural CS Change Maker Awards this year. They are awarded to high school CS teachers who have made significant impacts on his/her students or the community through CS instruction. Teachers were nominated by a colleague, and two letters of support were also submitted by fellow educators, administrators, parents, students or community members. Each of the award recipients receives a \$750 honorarium with complimentary registration, travel and lodging for the WeTeach\_CS Summit.



**Joy Schwartz**  
Hardin-Jefferson HS  
Hardin-Jefferson ISD



Joy Schwartz is a CS teacher at Hardin-Jefferson High School where, in just one year, she transformed her web design class from seven students to 80 students with her engaging content and real-world approach to teaching. Her hands-on, project-based learning robotics class even created and produced an actual prosthetic arm through a 3-D printing program. Schwartz' classroom buzzes with excitement and creativity due to creation of a robotic arena for competitions, and trainings with items and supplies she purchased.



**Henry Vo**  
Richardson HS  
Richardson ISD



Henry Vo is a CS teacher at Richardson High School who has tripled the size and scope of the CS program there in the past six years. More course offerings, more students and more than a dozen awards have been received at district, area, and state level competitions. Vo has grown the program to include a pipeline for students to enter a post-secondary setting with the University of Texas at Dallas. He has received many accolades for his work inspiring others and increasing female programmers in his classes.

## 2016 UT Austin CS Mini-Grant Awards

The UT Austin Center for STEM Education launched the inaugural CS Mini-Grant Award for Texas teachers this year. Supporting instructional resources and materials used for educating K-12 CS, funding can be used for after-school activities, in-school programs or summer camps. Today these grants of up to \$1,500 will be awarded to support activities to be completed within the next school year.



**Juan Orozco**  
Del Valle Elem.  
Del Valle ISD



Juan Orozco receives the CS Mini-Grant Award so he can expand the grade 3-5 after-school Robotics and Coding program to increase exposure to STEM concepts for students. It is modeled after a pilot program using Spheros SPRK robots. Orozco will use the grant to double the number of robots available, improve students' math skills and promote excellence for his Title 1 elementary school serving a high poverty, majority-minority student population.



**Margaret Dominguez**  
Cele MS  
Pflugerville ISD



Margaret Dominguez receives the CS Mini-Grant so she can offer the Robo Round-Up program to girls at Cele Middle School. Through daily half-hour tutoring/enrichment time, she will use the Sphero robotic balls. The grant will fund 12 Spheros, a STEAM Accessory pack and a Sphero EDU Nubby pack. There will be at least six Robo Round-Up cycles during the year, impacting 144 girls with potential to impact many more throughout the program.

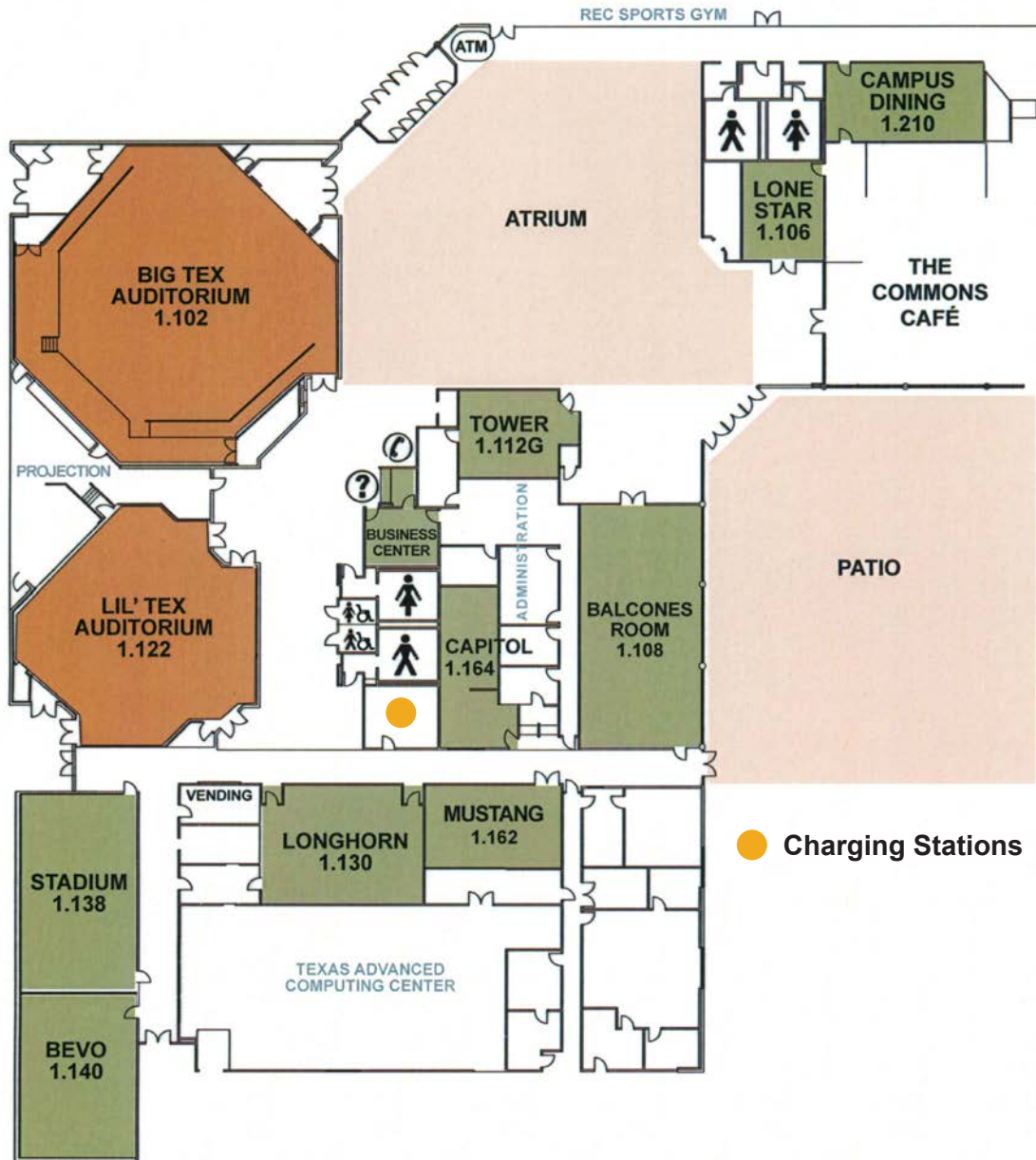
CS Change Maker Awards  
and  
CS Mini-Grant Awards

Sponsored by





# UT AUSTIN PICKLE RESEARCH CAMPUS Commons Learning Center Map



**WeTeach\_CS**

The University of Texas at Austin  
Center for STEM Education  
1912 Speedway D5500  
Austin, TX 78712

[www.WeTeachCS.org](http://www.WeTeachCS.org)



**#WeTeachCS**

To access the PDF version of this schedule, and the presentations made available to you after the conference, please visit:

[www.thetrc.org/cs-summit-2016](http://www.thetrc.org/cs-summit-2016)



**Survey**

To provide feedback on the WeTeach\_CS Summit, at the end of the conference, please click on the following link:

<http://weteachcs.org/summit-survey>

