



# Voice

Professional Growth

The Voice of K-12 Computer Science Education and its Educators

Volume 6, Issue 6

January 2011

## Inside This Issue

### FEATURES

- NYC—Here We Come!*
- Inspiring Cool Nerds*
- CS4HS*
- Professional Development in Your Neighborhood*
- CSTA Congratulates*

### COLUMNS

- Classroom Spotlight*
- Curriculum in Action*
- Student Opportunities*
- College Connection*
- Show Me the Numbers*

### INFO BRIEFS

- CSTA Thanks Staff*
- Membership Renewal*
- Contribute to the CSTA Voice*
- Contact Info*
- Be a leader in YOUR CSTA!*
- Meet the Authors*
- Mark Your Calendar*
- Resources*

**IN THE NEXT ISSUE OF THE VOICE**

**Classroom Tools**

## NYC—Here We Come!

*CS & IT Symposium 2011*

PLANS ARE NOW UNDERWAY for a significantly expanded CSTA annual Computer Science & Information Technology (CS & IT) conference in 2011. This year's conference will be held July 11-13, 2011, in New York City and will provide three days of conference activities including a full day of keynotes and breakout sessions, a day featuring a selection of hands-on workshops, and a special final day at the grand finale of the Microsoft U.S. Imagine Cup student competition.

The decision to expand the conference came at the recommendation of last year's planning committee who received a large number of participant requests to expand the one-day event to multiple days. "One of the things we have been hearing from the evaluations," says long-time committee member Philip East "is that teachers would have an easier time raising the funding for a two-day event. We also wanted to respond to attendee requests to have a more hands-on experience with opportunities to dive into some topics at length."

CSTA was also interested in expanding CS & IT to increase the value of the conference as a professional development and networking opportunity for teachers. "We know that CS & IT has become the best chance CS and IT teachers have for professional development that is specifically designed to meet their needs and be relevant to their classrooms, so we want to give them as many ways to learn as possible" says East.

This year again, the conference is being

sponsored by the Anita Borg Institute, Google, and Microsoft Research. It was this connection with Microsoft Research that led to the possibility of conference participants attending the finals of the U.S. Imagine Cup.

Another major change to the conference is that, this year, all of the sessions, with the exception of the keynotes, will be selected through a proposal submission and review process.

"Last year we decided to try out the process by opening up half of the regular sessions to a formal proposal submission and review process, and it was so successful, we decided to open all 20 of these sessions this year," said returning committee member Doug Peterson. The Call for Proposals for both one-hour sessions and workshops will be sent to all CSTA members as well as to the ACM SIGCSE listserv and to the AP CS listserv.

"This means, of course, that we will be looking for reviewers for both sessions and workshops," says new conference committee member Duncan Buell, "so please send me an e-mail at [BUELL@cec.sc.edu](mailto:BUELL@cec.sc.edu) if you would like to be a reviewer."

This is the first time that CS & IT has been held in New York City, and conference organizers and sponsors are working hard to ensure that this is both an exciting and affordable venue for conference attendees. "Everyone knows that New York is one of the most exciting cities in the world," says CSTA President Michelle Hutton, "but it is also known for being very expensive and *continued on page 2*

## CSTA thanks

Myra Deister  
Cindy James  
Karen Lang

Evelyn Torres-Rangel

for testing CSTA's CS Career Videos in their classrooms.

## Executive Officers

Michelle Hutton  
President  
mth@pobox.com

Stephen Cooper  
Vice-President  
scooper@sju.edu

## Staff

Dr. Chris Stephenson  
CSTA Executive Director  
Phone: 1-800-401-1799  
Fax: 1-541-687-1840  
cstephenson@csta.acm.org

Pat Phillips  
Editor  
Phone: 1-608-436-3050  
Fax: 1-928-855-4258  
cstapubs@csta.acm.org

## Committees

**Certification**  
cstacertification@csta.acm.org

**Curriculum**  
cstacurriculum@csta.acm.org

**Funding Development**  
cstagrants@csta.acm.org

**Membership**  
cstahelp@csta.acm.org

**Professional Development**  
cstapd@csta.acm.org

**Research**  
cstaresearch@csta.acm.org

## NY—HERE WE COME!

*continued from page 1*

that is why we are working on providing a couple of different options for accommodations, so attendees can make the best choice for their budgets."

This will be the 11<sup>th</sup> year for the CS & IT conference, and organizers are saying they expect it to be the biggest and

best ever. Registration will open in early February and information on all aspects of the conference will be available through the event website at: [www.csitsymposium.org](http://www.csitsymposium.org). From this site, you can also connect to all of the previous conferences, including all of the presenter presentations since 2000 and all of the presentation videos filmed at the 2010 conference.

## Inspiring Cool Nerds

Karen Kim

AS WE COLLECTIVELY WORK to increase the number and diversity of students prepared for and interested in pursuing careers in computer science (CS), Steve Lohr from the *New York Times* adds a new twist to the issue, arguing that "the national economy is going to need more 'cool nerds'" (Lohr, 2009). "Cool nerds" are professionals with hybrid careers that combine computing with other fields like medicine, art, or journalism. The Center for Embedded Networked Sensing (CENS), an interdisciplinary NSF Science & Technology Center at UCLA, has developed a summer research program for high school students that is proving that the idea of encouraging students to become "cool nerds" may in fact be another way to meet students half-way ([research.cens.ucla.edu/education/highschoolsolars](http://research.cens.ucla.edu/education/highschoolsolars)).

In the CENS High School Scholars Program, high school students are engaged in authentic hands-on CS research focused on participatory sensing ([participatorysensing.org](http://participatorysensing.org)) using Google Android mobile phones. While introducing students to CS research, the program is centered on allowing

students to form into teams to develop and carry out their own participatory sensing mobile phone campaigns. This becomes a true motivator for the students as they learn the challenging components of programming that are necessary to create their mobile phone applications. Applications include tools to monitor things in the environment (Bird Watch, WaterBusters), memory and response time games (Project Ketcham, Phrenic Sound), and an application for runners/walkers to track exercise routes (Healthy Path).

The CENS High School Scholars Program is a part of the UCLA LAUSD (Los Angeles Unified School District) "Into the Loop" NSF Broadening Participation in Computing (BPC) Alliance. This eight-week summer program is designed to reach out to students that have some interest in CS but do not have an extensive background. The majority of the participants are women and/or members of underrepresented groups who have been recommended by CS teachers involved with the UCLA LAUSD BPC Alliance.

The CENS Education staff and pro-

### CSTA Voice ISSN: 1555-2128

**CSTA Voice** is a publication of the Computer Science Teachers Association.

**CSTA Voice** is a quarterly publication for members of the Computer Science Teachers Association. It provides analysis and commentary on issues relating to K–12 computer science education, resources for educators, and information for members. The publication supports CSTA's mission to promote the teaching of computer science and other computing disciplines.

**Change of Address and Membership Questions:** Contact Member Services via e-mail at [cstahelp@csta.acm.org](mailto:cstahelp@csta.acm.org), or call 1-800-342-6626 (U.S. & Canada) or +1-212-626-0500 (Global).

**Reproduction Rights Information:** No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording or information storage and retrieval system, without permission in writing from the publisher. Exception: permission to photocopy [individual] items for internal or personal use is hereby granted by CSTA.

**Criteria for submitting articles:** Potential writers for CSTA should send a brief description of the proposed article, estimated word count, statement of value to members, author's name & brief bio/background info, and suggested title to the editor at [cstapubs@csta.acm.org](mailto:cstapubs@csta.acm.org). The final length, due date and title will be negotiated for chosen articles.

**Notice to Authors Contributing to CSTA Newsletter:** By submitting your article for distribution in this publication, you hereby grant to CSTA the following non-exclusive, perpetual, worldwide rights:

- to publish in print on condition of acceptance by the editor
- to digitize and post your article in the electronic version of this publication
- to allow users to copy and distribute the article for noncommercial, educational or research purposes

However, as a contributing author, you retain copyright to your article and CSTA will make every effort to refer requests for commercial use directly to you.

gram mentors implement a comprehensive program that links the scholars' research experiences to their academics and future educational career goals. With the guidance of faculty, two or three supervising mentors (undergraduate or graduate students) lead programming and technical tutorials and support the participants in the development of their own campaigns throughout the summer. This mentorship

The program also includes writing and statistics components that introduce students to scientific writing, experimental design, data visualization, and statistics.

is a critical component of the program, with talented undergraduates serving as role models for the high school students.

In addition to time in the lab, participants attend professional development workshops and regular progress report meetings. The program also includes components that introduce students to scientific writing, experimental design, data visualization, and statistics. The program concludes with a poster symposium and recognition event.

In three years, the CENS High School Scholars Program has supported 50 high school students and 5 undergraduates. The majority of students that have graduated from high school have gone on to pursue higher education at selective

colleges including Berkeley, Caltech, MIT, Princeton, Rice, Stanford, UCLA, and Yale. CENS students have also been recognized for their exceptional qualities. For example, one female student (now a freshman at Harvard) received the NCWIT "Aspirations in Computing" award and was accepted to all 23 colleges to which she applied, including Berkeley, Caltech, Harvard, MIT, Princeton, Stanford, and Yale.

Participatory sensing builds upon students' intense fascination, engagement, and involvement with technology, and fosters an inventive spirit while developing students' abilities to become creators instead of mere users of technology. Students gain an understanding of CS, statistics, and citizen science in ways that pique their interest for future study. But the primary strength of the CENS program is that students gain experience working on hands-on, collaborative research projects that are connected to societal applications and to broader topics in CS. In essence, these students are taught not only how to be "cool nerds" but that this path can be fun and rewarding.

#### Reference:

Lohr, S. (2009, December 20). New programs aim to lure young into digital jobs. *New York Times*. Retrieved from <http://www.nytimes.com/2009/12/21/technology/21nerds.html>

## CS4HS

*Reaching Far and Wide*

Mary Radomile

COMPUTER SCIENCE (CS) is an increasingly tough field to teach, especially at the high school level. Not only do you need to persuade teenagers that coding isn't too geeky to attempt, but with a lack of resources and constantly evolving technologies, it can be difficult for teachers to keep up with all the latest techniques and computing tools. To help teachers face these challenges, Google is funding a program called Computer Science for High School (CS4HS).

Started in 2006 as a joint effort between Carnegie Mellon University (CMU), University of Washington, and UCLA, CS4HS is a high school/middle school teacher workshop that introduces new and exciting concepts in computing and builds skills to teach them. The ultimate goals of CS4HS are to "train the trainers," develop a thriving community of high school CS teachers, and spread the word about the awe and beauty of computing. *continued on page 4*



Let us know if  
your contact  
information changes.

[cstephenson@csta.acm.org](mailto:cstephenson@csta.acm.org)

## Contribute to the CSTA Voice

The editorial board of the **CSTA Voice** is dedicated to ensuring that this publication reflects the interests, needs, and talents of the **CSTA** membership. Please consider sharing your expertise and love for computer science education by contributing newsletter content.

Potential writers for the **CSTA Voice** should send a brief description of the proposed article, estimated word count, statement of value to members, author's name and brief bio/background info, and suggested title to the editor at: [cstapubs@csta.acm.org](mailto:cstapubs@csta.acm.org). The final length, due date, and title will be negotiated for chosen articles. Please share your knowledge.

**Volunteer today!**

## The CSTA Voice welcomes your comments.

**E-MAIL:** [cstapubs@csta.acm.org](mailto:cstapubs@csta.acm.org)

**PHONE:** 1-608-436-3050

**FAX:** 1-928-855-4258

Letters to the Editor are limited to 200 words and may be edited for clarification.



ACM founded CSTA as part of  
its commitment to K-12  
computer science education.

**Be a leader in  
YOUR  
CSTA!**



**CALL FOR  
NOMINATIONS**

**CSTA Board of  
Directors**

**Nominations  
deadline:**

**February 1, 2011**



**(Two-year terms)**

- ♦ **K–8 Representative**
- ♦ **9–12 Representatives (2)**
- ♦ **At-Large Representative**
- ♦ **School District Representative**
- ♦ **College Faculty Representative**

**Official notice  
enclosed**



**Meet current  
board members**

**[csta.acm.org/About/sub/  
BoardofDirectors.html](http://csta.acm.org/About/sub/BoardofDirectors.html)**

## **CS4HS**

*continued from page 3*

During the summer of 2010, Google funded 21 workshops at colleges across the U.S. and we are sponsoring another 14 in Europe, the Middle East, and Africa. If each workshop in the U.S. has an average of 20 teachers in attendance, and if each of them teaches 90 students in a year, that means that the workshops have the potential to make a difference for approximately 38,000 students—an important start.

In 2011, we plan to expand our reach considerably by providing teaching modules, workshop best practices, and much more on our website, [www.cs4hs.com](http://www.cs4hs.com). All content will be posted under Creative Commons 2.5 license so anyone can use the materials and adapt them to their own workshop. Some modules may even be adapted for direct classroom use.

I had the chance to attend several CS4HS workshops last summer, including UC Berkeley, CMU, and MIT. In addition, there were Google representatives at most of the workshops around the country who participated in technical talks, panel discussions, and more. At UC Berkeley's CS4HS workshop, the facilitators highlighted hands-on skills that teachers can take directly back to the classroom. Twenty

local math and CS teachers had a chance to share tips and best practices around teaching CS, and created a solid foundation for a community. One of the most popular sessions over the two days at UC Berkeley was a demo of Scratch, a popular programming language geared towards K–12 students that makes it easy to create interac-

**At UC Berkeley's CS4HS workshop, the facilitators highlighted hands-on skills that teachers can take directly back to the classroom.**

tive stories, animations, games, music, and art. Attendees also had the opportunity to form the Golden Gate Chapter of CSTA.

The 2010 summer workshops in the U.S. are making a difference for many teachers. Emmanuel Onyeador, who teaches AP CS at Oakland Technical High School, told us, "CS4HS is the missing link—as a CS teacher, you find yourself isolated in your classroom. When I sit here I find that we're all talking about the same issues and the same type of students. What I bring back to my classroom will make a big difference."

You can view a list of all 21 U.S. CS4HS workshops sponsored in 2010 and find more information about the program at our website [www.cs4hs.com](http://www.cs4hs.com).

## **Professional Development in Your Neighborhood**

**PROFESSIONAL DEVELOPMENT** for computer science (CS) and technology teachers can be found in a variety of venues, from local CSTA Chapter events and workshops hosted by districts and universities to large regional or national conferences. Some are specific for CS educators and others have strands specific to CS education. Here is just a sampling of upcoming CS professional development opportunities. Contact your local CSTA Chapter, post-secondary schools, and other state and local computing organizations for events in your area.

- **eTech Ohio** January 31–February 2, 2011, Columbus, OH. CSTA Ohio will host the third annual CS Day at eTech with

events of special interest to CS educators. ([www.etechno.org/conference](http://www.etechno.org/conference))

- **FETC** (Florida Educational Technology Conference) January 31–February 3, 2011, Orlando, FL. K–12 educators will explore current and emerging technologies and learn how to apply them to school challenges in 200 breakout sessions and 60-plus workshops. ([fetc.org/events/2011-conference](http://fetc.org/events/2011-conference))
- **TCEA** (Texas Computer Education Association Convention) February 7–11, 2011, Austin, TX. Participants explore new trends for innovating learning with more than 100 workshops and 300 sessions from the basics to industry-leading trends and

topics in educational technology. ([www.tcea2011.org](http://www.tcea2011.org))

- **The Israeli National Center for CS Teachers Conference** February 9, 2011, Karmiel, Israel. The annual professional and social meeting offers a variety of workshops and training sessions throughout Israel to support educators, enhance their pedagogical skills, and prepare them to teach the most recent curriculum. (*Hebrew website: [cse.proj.ac.il](http://cse.proj.ac.il)*)
- **PETE & C** (Pennsylvania Educational Technology Expo and Conference) February 13–16, 2011, Hershey, PA. This statewide event provides programs focused on technology in education with keynote speakers, concurrent sessions, keystone poster sessions, and student showcases. ([www.peteandc.org](http://www.peteandc.org))
- **SuperQuest Spring Conference** March 12, 2011, Willamette University in Salem, OR. Topics include game development, robotics, and programming. ([www.techstart.org](http://www.techstart.org))
- **ISTE 2011** (International Society for Technology in Education) June 26–29, 2011, Philadelphia, PA. The conference focuses on themes including school improvement, technology infrastructure, professional learning, digital age teaching & learning, and virtual schooling/e-learning. ([www.isteconference.org/2011](http://www.isteconference.org/2011))
- **CS & IT Symposium (Computer Science & Information Technology)** July 11–13, 2011, New York City. CSTA's annual conference is the only national conference designed specifically for K–12 CS & IT teachers. It provides practical, classroom-focused, relevant professional development to help teachers prepare their students to be the tool builders of the future. ([www.csitsymposium.org](http://www.csitsymposium.org))
- **CCSC** (Consortium for Computing Sciences in Colleges) Dates and locations throughout the U.S. in ten geographic regions. Events promote the betterment of computer-oriented curricula in two- and four-year colleges and universities and improve the use of computing as an educational resource for all disciplines. ([www.ccsc.org](http://www.ccsc.org))
- **CS4HS: Google** (Computer Science for High School) Workshops, sponsored by Google and held at various locations, promote CS teaching practices in high school curriculum. With a grant from Google's Education Group, partnering colleges develop a two-day program for local high school CS teachers. Applications accepted in January 2011. ([cs4hs.com](http://cs4hs.com))
- **CS4HS: Carnegie Mellon** July 2011, dates TBD, Pittsburgh. The workshop, hosted by the School of Computer Science at Carnegie Mellon University, reaches out to high school (and K–8) teachers to provide resources to help them teach CS principles to their students in a fun and relevant way. ([www.cs.cmu.edu/cs4hs/](http://www.cs.cmu.edu/cs4hs/))
- **CS4HS: Washington**, summer 2011, dates TBD, University of Washington. The workshop, introduces basic CS concepts and ideas on integrating CS into teaching natural sciences and mathematics. ([cs4hs.cs.washington.edu](http://cs4hs.cs.washington.edu))
- **DTS** (Digital Technology Symposium) is held annually in November (dates TBD) and is sponsored by NZACDITT (New Zealand Association of Computing and Digital Information Technology Teachers). The symposium provides professional learning for teachers in digital technologies through collaboration with the education, industry, and tertiary sectors. ([nzacditt.org.nz](http://nzacditt.org.nz))

## Meet the Authors

### Stacey Armstrong

*Educator, Houston, TX*

Stacey has taught CS for 14 years. He is currently teaching at Cypress Woods High School in Houston and serving on the AP CS Principles Commission charged with creating a new AP CS course that will help broaden participation in computing. Stacey serves on the ACM Education Policy Committee.

### Jeff Gray

*University of Alabama*

Jeff is an associate professor in the Department of CS at Alabama. In addition to his technical research interests in software engineering, Jeff has a deep interest in CS education and increasing the awareness of computing. He conducts dozens of roadshows, field trips, and competitive events for K–12 students across the southeast.

### Shannon Henderson

*Educator, Kent, WA*

Shannon has taught business education and CS courses in the Kent School District for 18 years. She has a passion for finding ways to make learning attractive, fun, and relevant, without compromising the rigor that is necessary to ensure the future success of her students.

### Karen Kim

*CENS, UCLA*

Karen is the Education Director at the Center for Embedded Networked Sensing (CENS) where she oversees the education activities for the NSF Science & Technology Center. She focuses on increasing access, equity, and preparation of students in CS and engineering fields.

### Mary Radomile

*Program Manager, Google Inc.*

Mary has been at Google for almost 6 years and has held various roles in Recruiting and Human Resources, and has settled home with the Education Team. Mary currently manages several K–12 and university programs promoting STEM education, including CS4HS and Google Code University.

### Chris Stephenson

*Executive Director, CSTA*

Chris is a long-time advocate for K–12 CS education. She is the author of several textbooks, white papers, and scholarly articles on CS and adaptive technologies.

## CSTA Congratulates—Congressman Jared Polis

**JARED POLIS** from Colorado was re-elected to the U.S. Congress. He was instrumental in the introduction of the Computer Science Education Act of 2010. ([www.govtrack.us/congress/bill.xpd?bill=h111-5929](http://www.govtrack.us/congress/bill.xpd?bill=h111-5929))

## Classroom Spotlight

---

*Live on the Red Carpet*

GameFest 2010 Showcases Kent Students

**Shannon Henderson**

On March 25, 2010, five-hundred people filled the venue for the first annual VisFest/GameFest held at the Kent School District in Washington.

GameFest was open to all ages and any school-appropriate topic was acceptable. Individuals or teams were allowed to submit games to one of two divisions: games that were produced with code or games that were created using environments such as Game Maker or Flash.

Teams had to create all of their own sounds and graphics for their games or if they wanted to use a copyrighted item, teams were required to submit a copyright release from the owner. One team even tapped the musical talents of a classmate who wrote and performed the music for the game.

Community members, students, teachers, and family had an opportunity to try each game and vote for the “Peoples’ Choice” award. The evening culminated with all the pomp and circumstance associated with an awards ceremony, complete with a red carpet, tuxedos, and evening dresses.

Since 2002, the Kent School District in Washington has hosted the VisFest—Annual Visual Literacy Arts Festival. Through the years, VisFest has provided thousands of Kent area students an outlet to display their creative and artistic visual literacy talents, and in the spring of 2010, VisFest was expanded to also include a Video Gaming Expo.

The “VisFest/GameFest” notion came about because of our involvement in a Microsoft XNA Game Studio curriculum pilot. XNA Game Studio is an environment for creating games for the Windows console, the Xbox 360, and the Zune. Students programmed in C# in the Visual Studio IDE following the curriculum provided by Microsoft.

After only a few weeks, it was apparent that I had a vehicle for students to learn the importance of teamwork while developing advanced analytical, creative-thinking, and problem-solving skills. And all of these abilities were developing in conjunction with additional learning in science, technology, and math!

Students loved what they were learning. A group formed a game development team outside of school, expanding upon what they had been learning in class. School district officials became aware of the team and invited them to appear on an episode of “The Future is Now”—a Kent School District technology program produced for a local public television station, showcasing technology in the school district. After producing the episode, district officials approached me with the idea of adding a competitive “GameFest” component to “VisFest.”

Kent School District students are eagerly anticipating VisFest/GameFest 2011! ([www1.kent.k12.wa.us/KSD/IT/visfest](http://www1.kent.k12.wa.us/KSD/IT/visfest))

## Curriculum in Action

---

*Teaching AP CS Concepts Using Scratch*

**Stacey Armstrong**

Can you teach the concepts tested on the Advanced Placement Computer Science (AP CS) A exam using Scratch? The answer is clearly “YES!” Scratch enables students to solve problems and design algorithms, which are two of the

main components of the AP exam. Scratch is freely available along with many teaching resources at [scratch.mit.edu](http://scratch.mit.edu).

I use Scratch in my introductory CS course to teach fundamental algorithmic design principles and problem-solving skills. I chose Scratch for this class because I can focus solely on CS concepts and prevent students from getting bogged down in the syntax details of a typical text-based language like Java. For students new to CS, the details of a typical language can be overwhelming and potentially drive away some very capable students. Most will eventually use Java, Python, or some other language that requires an in-depth knowledge of syntax, but I prefer that they have a solid understanding of computing concepts first.

Sometimes there is so much focus on Java and Java syntax in preparation for the AP CS A exam that it is easy to forget that CS is more than a language; CS is using a computer and related tools to solve problems. Solving problems involves designing algorithms and finding ways to use computing to create a solution.

An understanding of if-statements and loops to process a list is a typical topic on the exam. Students may be asked to count how many blue items are in the list, or to identify the largest or smallest item, or to change the red items to green.

Teaching these concepts in Scratch enables the student to learn an important CS concept in a very friendly environment very early in the course. The concepts are fundamentally the same in Scratch as they are in Java, but they are easier to learn in Scratch because of the friendly environment and lack of minute syntax details.

It is absurd to think that learning has to be hard or unpleasant to be rigorous. A poor teaching strategy can make even the easiest concept seem hard; a great teaching strategy can make even the hardest concept seem easy.

## Student Opportunities

---

*A Web Design Competition for Students*

Students in the U.S. are invited to participate in the Microsoft® blink Web Design Competition with projects that communicate their vision of how technology can help make the world better by solving a local, regional, or global challenge ([www.blinkcontest.com](http://www.blinkcontest.com)). Registration opens in early January. Submission deadlines vary by state during the first week of March.

The competition fits perfectly in innovative classrooms by engaging students with the power of technology to solve real-world problems and sharing their ideas on the world stage. Studies show that when students are solving real-world problems, they’re more engaged in their learning—which of course translates into results in the classroom. At the 2010 CS & IT Symposium, Karen Lang & Margot Phillipps presented the case for the motivational value of programming contests as fulfilling a “desire by students and parents to get a sense of ‘their place’.” Access to professional web design tools and prizes including Xbox 360 and Kinect will generate even more excitement for students.

The competition is open to U.S. students ages 13–19, participating in teams of two to four. Projects can be created in class or independently using Microsoft Expression® Studio software. Expression Studio and other professional designer and developer software are provided at no cost to schools through a complimentary subscription to Microsoft Developer Network Academic Alliance (MSDN AA) and directly for student download through DreamSpark ([www.dreamspark.com](http://www.dreamspark.com)).

Registration opens in early January. Submission deadlines vary by state during the first week of March.

A wide variety of learning resources, including tutorials and complete units of study, are available for both classroom and independent learning at [expression.microsoft.com/education](http://expression.microsoft.com/education). A series of online webcasts and virtual labs are being offered to help teachers learn Expression and answer their questions.

Competition support is available on Facebook ([bit.ly/facebookTech](http://bit.ly/facebookTech)), and [Twitter@MSTechStudent](https://twitter.com/MSTechStudent). Technical support with Express Web is available at Expression forums at [bit.ly/ExWebSupport](http://bit.ly/ExWebSupport). Visit [www.blinkcontest.com](http://www.blinkcontest.com) for a complete list of resources.

To ask questions or to request Expression Studio software e-mail [innovativeteachers@microsoft.com](mailto:innovativeteachers@microsoft.com).

## College Connection

### University of Alabama

**Editor’s note:** *This dialog with Jeff Gray, Associate Professor in the Department of Computer Science at the University of Alabama (UA), is a continuation of our series of interviews with CSTA institutional members. The UA Department of CS offers many professional development and outreach opportunities to high school teachers or students. Please share these details about the CS programs at UA ([www.cs.ua.edu](http://www.cs.ua.edu)).*

The University of Alabama, located in Tuscaloosa, is the oldest in the state and has the largest enrollment (30,232) among Alabama universities. UA was recently ranked tenth in the nation for enrollment of National Merit Scholars and led the nation with 10 students named to *USA Today’s* “All-USA College Academic Team.” The CS Department, located in the College of Engineering, offers bachelors, masters, and doctoral degrees.

#### **CSTA: What draws students to UA CS and what keeps them there?**

**Gray:** UA is small enough to offer memorable mentoring experiences with faculty, yet large enough to offer quality cutting-edge research. UA offers a unique Computer-Based Honors option and the department is housed in a new state-of-the-art research complex. Over the next few years, \$250 million worth of additional construction will be added to the science and engineering complex.

#### **CSTA: Tell us about innovative CS programs at UA.**

**Gray:**

- The 100P program is an innovative, NSF-sponsored curriculum in which students complete 100 concept and research-related problems throughout their undergraduate experience.
- The Text-to-Art project combines problem-based learning with service-learning and emphasizes the creation of artistic works, collaboration, and reflection.
- Students in PREOP use incoming sensor data to create intelligent robot controllers with an Alice-like interface.
- A new course will focus on smartphone applications for the Android and service-learning experiences.
- A new course on Competitive Programming is being planned to prepare students for the ACM Programming Competition.

#### **CSTA: What cool careers are your graduates prepared for?**

**Gray:** Students interested in computing can find careers in government, private industry, research labs, and with their own start-up ventures. Our students are employed at traditional software companies but also in diverse companies across multiple domains. Alabama is becoming a leader in automobile

manufacturing (Mercedes-Benz, Honda, and Hyundai); several of our graduates write software for the automation in those factories. Huntsville, AL, has the second largest technical research park in the U.S. (fourth largest in the world) and ranked by *US News & World Report* as one of the top-ten locations for tech jobs.

#### **CSTA: Tell us a bit about the social environment of the CS program.**

**Gray:** The CS classrooms are close-knit learning environments where the faculty members know students personally. The ACM student chapter is very active in arranging events such as movie and game socials, contests and education events, and career seminars.

#### **CSTA: How is the diversity of the CS student population developed and encouraged?**

**Gray:** The College of Engineering has several programs to support students from traditionally underrepresented groups. Our outreach efforts are showing positive results; among the 50 state flagship institutions, UA was recently ranked fourth for percent of undergraduate degrees conferred to minority students.

#### **CSTA: What professional development and outreach programs are offered by the UA CS Department?**

**Gray:**

- The AP CS Summer Institute and Alice workshops for teachers.
- Dorm-based summer camps for students and teachers in Java, robots with Java, and Android apps with Java.
- A robotics programming contest for K–12 students.
- “Roadshow” visits and on-campus field trips.
- XO laptop training with CS Unplugged activities for fifth grade students.

A new area of outreach that I am personally excited about intersects both research and education. Several UA students created an interface to Scratch with a “Programming by Voice” feature. We plan to work with United Cerebral Palsy to teach children with disabilities how to program in Scratch. For more information about professional development and outreach at UA visit [www.cs.ua.edu/~gray/outreach/outreach.html](http://www.cs.ua.edu/~gray/outreach/outreach.html).

SHOW ME THE NUMBERS	
CSTA MEMBERS' PREFERENCES IN PROFESSIONAL DEVELOPMENT	
PD Format	% of members who ranked it highly effective
Workshops/seminars .....	68.4
Networking with others .....	50.2
Online resources .....	46.9
Professional conferences .....	43.2
Computer-based tutorials .....	40.7
College courses .....	31.2

SOURCE: CSTA National Secondary Computer Science Survey (2009)  
[csta.acm.org/Research/sub/CSTARResearch.html](http://csta.acm.org/Research/sub/CSTARResearch.html)



## MARK YOUR CALENDAR

### FETC 2011

January 31–February 3, 2011 in Orlando, Florida  
[fetc.org/events/2011-conference](http://fetc.org/events/2011-conference)

### TCEA

February 7–11, 2011 in Austin, Texas  
[www.tcea2011.org](http://www.tcea2011.org)

### ScienceMakers - The Color of Science

Featuring African American scientists  
February 11, 2011 in Philadelphia, Pennsylvania  
[www.thehistorymakers.com](http://www.thehistorymakers.com)

### SIGCSE 2011

March 9–12, 2011 in Dallas, Texas  
[www.sigcse.org/sigcse2011](http://www.sigcse.org/sigcse2011)

### Consortium for Computing Sciences in Colleges (CCSC: Southwestern)

April 1–2, 2011 in Los Angeles, California  
[www.ccsc.org/southwestern](http://www.ccsc.org/southwestern)

### Consortium for Computing Sciences in Colleges (CCSC: Mid-South)

April 1-2, 2011 in Conway, Arkansas  
[www.ccsc-ms.org](http://www.ccsc-ms.org)

### Alabama Robotics Challenge

April 2, 2011 in Tuscaloosa, Alabama  
[www.cs.ua.edu/outreach/robotics-contest](http://www.cs.ua.edu/outreach/robotics-contest)

### Consortium for Computing Sciences in Colleges (CCSC: Central Plains)

April 8–9, 2011 in Warrensburg, MO  
[www.ccsc.org/centralplains](http://www.ccsc.org/centralplains)

### Consortium for Computing Sciences in Colleges (CCSC: Northeastern)

April 15–16, 2011 in Springfield, Massachusetts  
[www.ccscne.org/2011](http://www.ccscne.org/2011)

### Consortium for Computing Sciences in Colleges (CCSC: South Central)

April 15–16, 2011 in Huntsville, Texas  
[www.sci.tamucc.edu/ccsc](http://www.sci.tamucc.edu/ccsc)

### Oregon Game Programming Challenge

April 30, 2011 in Salem, Oregon  
[www.techstart.org/ogpc](http://www.techstart.org/ogpc)

### NCWIT Aspiration in Computing

Various local and state award event dates  
[www.ncwit.org/work.awards.aspiration.find.html](http://www.ncwit.org/work.awards.aspiration.find.html)

### Alabama Computer Camps

June 6–24, 2011 in Tuscaloosa, Alabama  
[www.cs.ua.edu/outreach/camps](http://www.cs.ua.edu/outreach/camps)

### CS & IT Symposium

July 11–13, 2011 in New York City  
[www.csitsymposium.org](http://www.csitsymposium.org)

### CS4HS: Carnegie Mellon

July 2011, dates TBD in Pittsburgh, Pennsylvania  
[www.cs.cmu.edu/cs4hs/](http://www.cs.cmu.edu/cs4hs/)

See **Professional Development in Your Neighborhood** (page 4) for more events.

## RESOURCES

Here's more information on topics covered in this issue of the *CSTA Voice*.

**Page 1:** CS & IT Symposium [www.csitsymposium.org](http://www.csitsymposium.org)

**Page 1:** Anita Borg Institute [anitaborg.org](http://anitaborg.org)

**Page 1:** Google [www.google.com/corporate](http://www.google.com/corporate)

**Page 1:** Microsoft Research [research.microsoft.com](http://research.microsoft.com)

**Page 2:** CSTA Career Videos [csta.acm.org](http://csta.acm.org)

**Page 2:** Participatory Sensing [participatorysensing.org](http://participatorysensing.org)

**Page 2:** Center for Embedded Networking Sensing (CENS)  
[research.cens.ucla.edu/education/highschoolsolars](http://research.cens.ucla.edu/education/highschoolsolars)

**Page 2:** New York Times [www.nytimes.com/2009/12/21/technology/21nerds.html](http://www.nytimes.com/2009/12/21/technology/21nerds.html)

**Page 3:** CS4HS [www.cs4hs.com](http://www.cs4hs.com)

**Page 5:** Track CS Education Act of 2010 [www.govtrack.us/congress/bill.xpd?bill=h111-5929](http://www.govtrack.us/congress/bill.xpd?bill=h111-5929)

**Page 6:** GameFest [www1.kent.k12.wa.us/KSD/IT/visfest](http://www1.kent.k12.wa.us/KSD/IT/visfest)

**Page 6:** Scratch [scratch.mit.edu](http://scratch.mit.edu)

**Page 6:** Microsoft blink Web Design Competition [www.blinkcontest.com](http://www.blinkcontest.com)

**Page 6:** DreamSpark [www.dreamspark.com](http://www.dreamspark.com)

**Page 7:** University of Alabama Computer Science [www.cs.ua.edu](http://www.cs.ua.edu)

**Page 7:** University of Alabama CS Outreach [www.cs.ua.edu/~gray/outreach/outreach.html](http://www.cs.ua.edu/~gray/outreach/outreach.html)

**Page 7:** CSTA Member Survey [csta.acm.org/Research/sub/CSTAResearch.html](http://csta.acm.org/Research/sub/CSTAResearch.html)

**Career Videos  
From  
CSTA!**

**Perfect for school  
announcements**

**Great for the  
classroom**

**Download today  
[csta.acm.org](http://csta.acm.org)**