



Voice

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

Volume 7, Issue 1

March 2011

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Computational Thinking

Douglas Rushkoff to Keynote CS & IT Conference!

CSTA HAS ANNOUNCED that Douglas Rushkoff will be one of two keynote speakers at the upcoming Computer Science & Information Technology (CS & IT) conference in New York this summer.

Rushkoff is the author of *Program or Be Programmed: Ten Commands for the Digital Age*, which, according to CS & IT Conference Chair Chris Stephenson, is one of the most relevant and thoughtful cultural and educational books this year, especially for CS and IT teachers. "This book identifies many of the ways in which ubiquitous computing is changing how we work, live, and think, and the importance of ensuring our ability to understand, control, and build these new technologies," says Stephenson.

Rushkoff also notes that it is especially important to discuss these ideas with teachers, who are often the most powerful advocates for better CS education. "I'm particularly excited to engage with educators about the possibilities for making programming more central to both high school and college curriculums," explains Rushkoff. "Perhaps together we can come up with ways to convince students and administrators alike that this is the surest path to genuine literacy and even "agency" in a digital age."

Rushkoff, a winner of first Neil Postman award for Career Achievement in Public Intellectual Activity, is an author, teacher, and documentarian who focuses on the ways people, cultures, and institutions create, share, and influence each other's values. Following in the footsteps of important cultural and media thinkers such as Edward Hall, Marshall McLuhan, and Neil Postman, Rushkoff helps readers come to recognize programming as the new literacy of the digital age—and as a template through which to see beyond current social conventions and power structures.

Rushkoff also teaches media studies at NYU and the New School University, serves as technology columnist for *The Daily Beast*, and lectures around the world.

CSTA's annual CS & IT conference will be held at Columbia University in New York City from July 11-13, 2011. The conference will include a full day of keynotes and break-out sessions, a full day of 3-hour hands-on workshops, and a day of participation at the Imagine Cup finale.

The conference is sponsored by the Anita Borg Institute, Google, and Microsoft Research. This will be the 11th year for this annual professional development event for CS and IT teachers.

CSEdWeek Supports K-8 Learning

Cindy James

COMPUTER SCIENCE EDUCATION WEEK provided an excellent opportunity for students in Norwood District 63 to take on activities that support their ongoing learning.

CSEdWeek presented a chance to showcase student work and to expand horizons for the more than 400 students in the K-8 technology classes. *continued on page 2*

CSTA thanks

Teachers who respond to the CSTA National CS Survey by April 30, 2011.

www.surveymonkey.com/s/csta2011

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CSEDWEEK SUPPORTS K-8 LEARNING

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During the week, students in grades five through eight were introduced to computing careers using CSTA's new career videos (csta.acm.org/Resources/sub/BrochuresPostersVideos.html). A parent volunteer who uses CAD in his design work at Caterpillar visited to talk about his career. He used Paint to draw a machine part and discuss how a part progresses from the initial design to programming. He observed fifth-grade students using Scratch and related their programming to his work at Caterpillar.

We also kicked off CSEdWeek with new programming units. Fifth-grade students were introduced to Scratch while students in grades six through eight advanced to activities using Etoys. Our first student project has been posted on the EtoysIllinois website (etoysillinois.org/library/?sl=1653).

These topics are important because we know that computer science (CS) impacts students' learning in a variety of ways. These projects:

- teach students how the technology that is their world and future really works;
- promote a deeper understanding and application of math and problem-solving;
- foster creativity and innovation; and
- enable differentiated learning—everyone can be successful with Scratch and Etoys.

Eighth-graders topped off CSEdWeek with a field trip to the University of Illinois National Center for Supercomputing Applications (NCSA) (www.ncsa.illinois.edu), bringing all of these experiences to life.

These CSEdWeek activities and the

resources that CSTA has created to promote student engagement and improve learning have very much supported and complemented our on-going CS curriculum efforts. Students in all grades from kindergarten through the eighth grade learn about CS and technology through structured, integrated lessons created from the *ACM/CSTA K-12 Model Curriculum* and *NETS*.

Teaching CS and IT to more than 400 K-8 students is very challenging, exciting, and rewarding. Paint is one of the first applications I use with students in kindergarten through grade five because there are so many lessons and extensions that can be taught. Using digital photos of themselves, students in kindergarten through grade five learn to import images, resize and crop photos, and use the drawing tools. This is a great introduction for learning to insert clip art and pictures into Word for students in grades three through five. Paint is available to all students and everyone can be successful.

Older students in grades six through eight use Paint in the creation of multimedia presentations and to learn about file extensions. Students used Photo Story 3 and Windows Movie Maker to create original stories using Microsoft PowerPoint slides saved as JPEG files, plus photos, sounds, music, and recorded narrations.

As the year progresses, students in kindergarten through grade two continue to work on their computer skills while navigating resources to improve their reading and other standards-based goals. Students in grades three through five work extensively with word processing, keyboarding, and creating presentations with PowerPoint.

Students in grades six through eight

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.

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learn more programming with Excel. They learn to create tables and use the VLOOKUP function and apply those skills to analyzing and reporting the results from surveys of their peers. In their final projects, eighth-grade students create résumés and cover letters that they can take with them

as a model for future reference, and they design a “Farewell to Norwood” class newspaper using Microsoft Publisher.

Our future plans include creating a computer history museum and a lab area where eighth-grade students can work hands-on with computer hardware.

CS is Fun in Oregon

Ron Tenison

ALONG WITH MAKING CHANGES to the computer science (CS) curriculum, Oregon CS teachers are keeping the fun in CS through state-wide team challenges and competitions. The competitions motivate students to deepen and apply their knowledge and enable them to meet peers from schools all over Oregon and Southwest Washington—they are also just plain fun.

The programming contest started over 20 years ago with the Willamette University ACM-style programming contest and was originally for advanced students

Based on team numbers, Oregon has one of the largest robotics competition programs in the world.

using Pascal. Now any 3- or 4-person high school team can compete in either the varsity or JV level using a standard programming language. Students work on the problems while teachers are busy at our spring conference elsewhere on campus.

Oregon also offers FIRST™ Robotics competitions. ORTOP (Oregon Robotics Tournament and Outreach Program) organizes the contest season and tournaments for Junior FIRST LEGO League (grades K–2), FIRST LEGO League (3–9) and FIRST Tech Challenge (9–12). Oregon FIRST implements the FIRST Robotics Competition for high school students. ORTOP, which is completely supported by donations, provides training for coaches, mentors, judges, and referees. Based on team numbers, Oregon has one of the largest robotics competition

programs in the world.

The summer SuperQuest teacher programs, taught by local teachers and funded by TechStart Education Foundation, provides training in robotics, game development, and other curricula to meet teacher interest. Triggered by the introduction of GameMaker and introductory game design training at SuperQuest, the Oregon Game Project Challenge (OGPC) was created. OGPC announces a new theme each year around which teams design and create a game. At the competition, event teams present their work to two panels of judges from academia and game industry professions, who evaluate the technical aspects as well as the visual presentation and play of the game. Teams participate in peer reviews also. The contest is usually held in early May.

Our newest venture is an Aspirations in Computing Award for high school girls. Oregon’s CSTA chapter is the regional affiliate for the National Center for Women in Information Technology (NCWIT) award. Girls and their schools are recognized at an awards ceremony in March.

Oregon teachers, through their school districts, can apply for eCHAMP (Engineering CoachIng And Mentoring Program) financial stipends for coaching technology teams—just like many other coaches receive.

The competitions are made possible with the help of Oregon CSTA, the Oregon Pre-Engineering and Applied Sciences Initiative (OPAS), the TechStart Education Foundation of the Software Association of Oregon, university faculty and staff, and the Oregon Department of Education.



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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.

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candidates
posted

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Digital Divas

Working to Change Girls' Perceptions of IT

Catherine Lang

IN AUSTRALIA, females currently represent less than 20% of the students in university information technology (IT) courses and less than 15% of the employees in the IT industry. The Digital Divas program is working to reverse the declining diversity in IT courses and careers by encouraging girls to consider IT as a future career.

Digital Divas, a girls-only elective course, is conducted in four 48-minute sessions each week over one semester. It

Having only girls in the classroom ensured that they were able to explore and discover, not become passive on-lookers.

began in 2008 for Year 8 girls (generally 13 or 14 years of age) at a large secondary school. The decision to offer a single-sex elective was based on research recommendations that documented the propensity for males to take ownership of the hardware in classroom environments and ideas from *Unlocking the Clubhouse: Women in Computing* by Jane Margolis and Allan Fisher. Having only girls in the classroom ensured that they were able to explore and discover, not become passive on-lookers.

The program focuses on three layers of influence:

1. Curriculum

The first and most important layer is to ensure the elective has an engaging content which is in line with the required curriculum. The girls participate equally in group-work and computer-based activities. They engage in creative and interesting activities, including multimedia applications, research, spreadsheet applications, and introductory programming. Alice was selected as the programming language because of its creative nature and appeal to young girls.

2. Informal mentoring

The second layer of influence is to encour-

age informal mentoring and role modeling by engaging female university students as classroom assistants. Student feedback indicates that they greatly value the opportunity to informally interact with the university students as "blog buddies" (online mentors) as well as in the classroom.

3. IT career-women guests

The third and final layer of engagement is to build connections with young women

working in the IT industry. The stories of the guest speakers' personal career journeys have the power to change perceptions about IT careers.

Students have met a business information systems

university graduate working at a large corporation, a network administration expert who transitioned to IT after beginning her career in health science, and a software programmer who worked with a well-known multinational company. The speakers are encouraged to talk about their own school experiences and the influencing factors in their career choices. The girls capture the talks on hand-held digital cameras and make them available on the Digital Divas portal.

The program, funded by an Australian Research Grant, is now operating in five schools and is set to expand to more schools in 2011 and to develop more curriculum resources.

Previous analysis of similar girls' computer club programs, while fun and beneficial, did not appear to have lasting impact. We believe that Digital Divas will bridge this gap by:

- developing relationships with the classroom facilitators;
- dispelling the stereotype that an IT career equals programming; and
- exploring careers with "a day in the life" research project.

At this point the program has been completed in only one school, so we

cannot accurately measure the impact. However, the teacher reported that two-thirds of the students responded that they would consider studying IT in the future. We are interested in the long-term impact and whether a greater proportion from this cohort of Year 8 students

select IT courses or careers in later years. While we cannot expect a reversal of perceptions to occur quickly, we strongly believe that the Digital Divas program, with its three layers of influence, will enable incremental improvements in female interest in IT courses and careers.

Building the Future of CS with Blocks

Louis Fleming

ON THE CLOSING NIGHT of the most recent Advance Placement Computer Science (AP CS) reading in Cincinnati, several speakers discussed the proposed AP Principles of Computer Science course and the plans for beta testing the course at several colleges during the fall 2010 semester. I was excited to explore this new curriculum and was directed to the work of Dr. Dan Garcia. He is a beta tester of the new Principles course at the University of California Berkeley and has posted the topic outline on his website (inst.eecs.berkeley.edu/~cs10/fa10). I asked Dr. Garcia if I might use some of his teaching resources and he graciously granted me access to the materials—just in time for the start of school.

The learning activities use BYOB—Build Your Own Blocks—a variation of the Scratch programming graphical drag-and-drop programming environment specifically created for use with somewhat older students in the new Principles of CS course. BYOB is free and is available at: byob.berkeley.edu. It is designed to allow student programmers to create a graphical BLOCK of code (a method) and literally drag and drop it into the desired position in a program. The ability to physically place the BLOCK reinforces the idea of code portability.

I taught the new curriculum using BYOB to my introductory CS class at Andrews High School in Andrews, TX. The school population is about 850 students, of which 50% are minority with 46% Hispanic. Seven girls are in my class of 16 students, which includes five freshmen, four sophomores, and seven juniors. Only two were already familiar with Scratch.

Students adapted easily to the BYOB environment and the few bumps we

experienced were smoothed by adding intermediary labs when the steps seemed too far apart. Early labs involve some turtle-style Logo commands. The colorful visual output is great for teaching program sequencing, as well as the concepts of random numbers and loops. Because detailed graphic design is possible, students quickly and eagerly engage with BYOB; their work changes from programming to creation.

Students were able to answer many of their own questions because the visual interface is almost self-correcting—students can “see” their errors. Allowing students to work in small teams encouraged them to discuss and solve their own problems.

Within ten weeks students had mastered many concepts involving lists. From a list they were able to remove words and insert new words at given locations and replace lower-case letters with upper-case. As a group they mastered these list concepts at about the same time as students in the CS 2 class were mastering similar concepts with array lists.

Overall I am excited about the success of these students with BYOB. I believe they were able to visualize and process more in-depth algorithms more quickly than CS students learning with some more traditional environments because of the visual environment, immediate feedback, and lack of syntax issues in BYOB. It will be exciting to see, if in their second year of CS, they easily transfer their learning to more complex algorithms and quickly adapt to a different syntax.

CS teachers everywhere should be excited about the future. The AP Principles of CS course will benefit our students and our programs because it invites a wider audience of students to CS.

Meet the Authors

Vicki L. Almstrum

Southwestern University, TX
Vicki is currently a freelance computer scientist. She specializes in research on CS education with an emphasis on software engineering.

Duncan Buell

University Faculty Representative, CSTA
Duncan is a CS professor at the University of South Carolina in Columbia, and has a CS textbook about to be published.

Louis Fleming

CS Educator, Andrews, TX
Louis has taught CS for 17 years at Andrews High School. He has presented on multiple occasions at TCEA on various CS topics.

Cindy James

CS Educator, Peoria, IL
Cindy teaches CS & IT at Norwood Elementary in grades five–eight. Before entering teaching, she spent 30 years in the corporate world focusing on efficiency and technology in the workplace.

Catherine Lang

Swinburne University, Australia
Catherine is a Senior Lecturer in the Faculty of Information and Communication Technologies (ICT) at Swinburne University. She researches the under-representation of women in ICT.

Barbara Boucher Owens

Southwestern University, TX
Barbara is a past chair of the ACM SIGCSE and is on the faculty of CS at Southwestern University in Georgetown, TX.

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.

Ron Tenison

Oregon CSTA
Ron was one of the founders of Oregon CSTA. He taught high school physics and CS at the high school and college level. Ron is currently a volunteer planner for in-service training and student competitions.

Membership News

CSTA Launches Its Fourth National Survey

Chris Stephenson

CSTA is calling on all high school computer science (CS) educators in the U.S. to participate in its fourth national survey on CS education. Every two years since 2004, CSTA has conducted a survey of more than 14,000 U.S. CS educators in an effort to form a more complete understanding of high school CS education and how it is evolving.

This survey, which tracks key information on courses offered, enrollment levels, the participation of underrepresented student minorities, teacher preferences for professional development, and infrastructure challenges, provides the only comprehensive and ongoing picture available on CS in the U.S.

According to CSTA Research Committee Chair, Professor Judith Gal-Ezer, teacher participation in this survey has been the key to our knowledge of emerging trends and issues. “The information provided by the teachers participating in this survey has been invaluable in that it provides the only classroom-level view of K–12 CS education,” says Gal-Ezer. “Through their participation in this important research effort, teachers have enabled us to foresee dropping enrollments, the disappearance of rigorous CS courses in schools, and to identify important areas where CSTA can contribute new resources or advocate for policy changes.”

U.S. high school CS teachers who have not yet participated in this important research effort, are urged to complete the survey at www.surveymonkey.com/s/csta2011 by April 30, 2011.

Resource Review

Top Secret Rosies—A Film Review

Duncan Buell

A cartoon from 1943 sets the story. Two women are crossing campus, one saying, “I’m majoring in English, minoring in art, and specializing in welding.”

With men in short supply, women contributed to the war effort; the “We can do it!” poster of Rosie the Riveter is iconic. Less well-known is the intellectual labor of women: WRENS in England running Colossus and Bombe machines decrypting Enigma; their counterparts in Ohio; or the subjects of this film, the women of the Philadelphia Computing Section, who calculated ballistics tables for the Army. Before ENIAC and Colossus, “computer” was a job title for someone who computed (we would probably now say “calculated”). And unlike assembly-line work, these women’s work was classified; this was the first war in which technology other than simple weaponry played a major role.

It is good that someone documented the work of the women of PCS; university graduates from the WWII era would now be in their late 80s or 90s, and there is little time left to collect this oral history. This film is largely done from interviews of four women who were recruited to the PCS, at the Moore School at Penn (where ENIAC was built) and working with the Aberdeen Proving Grounds. This is a story of women, fully capable of professional careers in mathematics, who would not have had that opportunity but for wartime exigency.

Top Secret Rosies, a documentary by LeAnn Erickson, is indeed inspiring. It shows how these women broke through a major gender barrier to do critical professional work. Their smiles and obvious pride in what they did because they were

needed are good to see. The historical contrast is also worth noting; we would like to think we are doing better at providing opportunity than we did then.

The film, however, is not without its flaws. There are two long digressions on the morality of the bombing and the war itself, largely done through interviews of men. It is legitimate to pose the question of how people coped with the personal and ethical responsibility for their work, but these two segments are a digression, largely without context, and focus on those who used the ballistics tables, not the women who produced those tables.

The film also misses some opportunities by being too narrow. Thousands of women, not dozens, did mathematics and cryptography, but this is largely missing, as is the transition to the machine era. By 1946, ENIAC was a reality and “calculation” turned to “programming.” Many of the early programmers were women, several came from the PCS. But the film is light on this subject. Beyond just these women, what opportunities existed for women in the late 1940s and into the 1950s as a result of their work during the war? How did this small group contribute (or did they?) to what we would now call “the women’s movement”? And what happened to them after the war?

In conclusion, this is not a perfect film but it is a good one and worth screening in the classroom—especially for students who have no idea of the critical role these women played in the field of computing and in the war effort. (www.topsecretrosies.com)

Chapter Highlights

Congratulations, Philadelphia CSTA!

On December 2, 2010, the Philadelphia CSTA Chapter received a Pennsylvania Congressional Citation that acknowledges the dedication of the Philadelphia area computer science (CS) educators in promoting CS education to the benefit of countless students and businesses.

The citation acknowledges the work done by the Philadelphia area CS educators as essential in preparing students for the hyper-competitive environment of the 21st Century global economy. Congressman Joe Sestak applauded the contribution and leadership these educators have shown in their efforts to prepare students for careers in CS and the importance of CS in countless areas including national security.

The citation concludes, “On behalf of the constituents of the 7th Congressional District of Pennsylvania, I commend the Philadelphia Area Computer Science Educators for their dedication to inspiring young Americans to pursue a field of study of enormous importance to their nation and the world.”

Promoting CS

Inspiring Educator Life Stories

Vicki L. Almstrum, Barbara Boucher Owens

How did computing education become what it is today? Who are the individuals responsible? What steps did their careers follow? What can we learn from their stories?

The Computing Educators Oral History Project (CEOHP) was started in 2005 to discover and preserve the answers to these questions. The original project plan was to gather the stories of women computing education pioneers toward the end of their careers; it was later expanded to include men, as well as educators earlier in their careers. The goal is to provide a career stair-step model of inspiration and mentoring.

Twenty-seven educators from six continents have been interviewed and their stories are included in the collection available at the newly updated CEOHP portal (ceohp.org). The interview materials include the audio from the interview, a full transcript, several interesting quotes, a brief video snippet, interviewee background details, and links for more information.

Resources designed to enable pre-collegiate teachers to make use of the site in conjunction with CS promotional activities and CS career lessons are under development and will be added to the site as they are completed. For example, a scavenger hunt activity guides students through selected quotes from the interviews and encourages them to think more deeply about the incidents described and relate them to their own life experiences. Educators are invited to submit resources that make use of the CEOHP interviews and materials for possible inclusion.

The project has been supported by a planning grant from the National Science Foundation, a Sam Taylor grant, and sponsorship from the professional organizations SIGCSE, NCWIT, and ACM-W.

Hear more from Vicki Almstrum about the CEOHP in a CSTA podcast at csta.acm.org/Communications/sub/Podcasts.html.

College Connection

Michigan Technological University

Editor's note: *This dialog with Steven Carr, Professor and Interim Chair of the Department of Computer Science (CS) at Michigan Technological University, is a continuation of our series of interviews with CSTA institutional members. Please share these details about the CS programs at Michigan Tech (www.mtu.edu) with your students.*

CSTA: Describe Michigan Technological University.

Carr: Michigan Technological University, located in Houghton, Michigan, within the scenic Upper Peninsula, is a research university with approximately 7,000 students. Students can earn a Bachelor of Science degree in Computer Science, Software Engineering, and Computer Systems Science. At the graduate level students can earn a Master of Science degree, as well as a Doctorate of Philosophy degree.

CSTA: What draws students to your program and what keeps them there?

Carr: The Michigan Tech CS curriculum compares with the finest programs in the country. Whether your interests tend toward software development, system and network administration, core CS, or teaching, we have curriculum choices to meet your needs. Michigan Tech offers a small, safe campus with access to year around outdoor activities.

A unique feature is our Enterprise Program called Husky Games. This student group is structured as a business that creates and sells video games. Students involved in this enterprise are afforded the opportunity to receive a solid education in the foundations of CS, while learning to develop video games.

CSTA: What skills can students acquire before college that will help them succeed?

Carr: Students should take science, writing, and mathematics—at least through pre-calculus. CS courses are helpful, but not required. Effective study skills are critical.

CSTA: Tell us about innovative majors or programs of study.

Carr: In addition to our program in traditional CS, we offer

degrees in computer systems science and software engineering. Computer systems science emphasizes system administration, networking, and computer security; software engineering emphasizes large-scale software design and development. The three degree programs are structured to allow students to move between the degrees during their first two years without losing time.

CSTA: What cool careers are your graduates prepared for?

Carr: Graduates of our program have found lucrative and challenging positions with a wide range of companies from small startup organizations to large corporations such as IBM, Ford, Boston Scientific, Lucent Technologies, Hewlett Packard, Amazon, Microsoft, Google, and Boeing. Several of our alumni are CEO's, CIO's, and/or owners of their own companies that develop products ranging from computer games to medical devices. Additionally, some students pursue graduate studies and go on to careers in research and academia.

CSTA: What distinguishes your school and program from others?

Carr: Students are taught by CS faculty who are genuinely interested both in providing a quality education and in furthering their own professional expertise. This means that as a student you get the advantages of both a small school (e.g., excellent teachers and personal attention) and of a large research university (e.g., an up-to-date curriculum taught by active researchers). A significant plus for students is that our programs are designed with commonality in the first two years to enable students to easily switch among the degree programs as their interests become more well-defined.

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

Carr: Our student groups include the Association of Computing Machinery Programming Competition teams, which compete in a worldwide programming competition, the Computer Science Living Community, which provides an environment for students to live and socialize on campus, the Linux Users' Group, and the UPE CS honor society. These groups sponsor activities such as LAN parties and the BonzAI Brawl, which is a competition in which groups of students compete against other groups to write the best game-playing computer program.

SHOW ME THE NUMBERS COMPARISON OF SELECTED TOPICS IN INTRODUCTORY CS COURSES 2005–2009

	% of reporting teachers		
	2005	2007	2009
Hardware	60	57	53
Programming	68	55	52
Graphics	46	58	49
Computer Security	14	38	47
Web Development	43	35	38
Game Programming	NA	NA	19
Networks	21	21	21
Ethics/social issues	56	55	58

Source: CSTA National Secondary CS Survey: Comparison of 2005, 2007 and 2009 survey results (2009) csta.acm.org/Research/sub/Projects/ResearchFiles/CSTASurvey05-07_09Comp_DCarter.pdf



We're on the Web! csta.acm.org

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SIGCSE 2011

March 9–12, 2011 in Dallas, Texas
www.sigcse.org/sigcse2011

Inspire Middle and High School Girls toward Careers in Science

2011 NSTA Conference
March 10, 2011 in San Francisco, California
www.nsta.org/conferences

TechStart Education Foundation Programming Contest

March 12, 2011 in Salem, Oregon
techstart.org/willamette

Consortium for Computing Sciences in Colleges (CCSC: Southwestern)

April 1–2, 2011 in Los Angeles, California
www.ccsc.org/southwestern

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

April 1–2, 2011 in Conway, Arkansas
www.ccsc-ms.org

Alabama Robotics Challenge

April 2, 2011 in Tuscaloosa, Alabama
www.cs.ua.edu/outreach/robotics-contest

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

April 8–9, 2011 in Warrensburg, Missouri
www.ccsc.org/centralplains

Consortium for Computing Sciences in Colleges (CCSC: Northeastern)

April 15–16, 2011 in Springfield, Massachusetts
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

Oregon Game Programming Challenge

April 30, 2011 in Salem, Oregon
www.techstart.org/ogpc

NCWIT Aspiration in Computing

Various local and state award event dates
www.ncwit.org/work.awards.aspiration.find.html

Alabama Computer Camps

June 6–24, 2011 in Tuscaloosa, Alabama
www.cs.ua.edu/outreach/camps

CS & IT Symposium

July 11–13, 2011 in New York City
www.csitsymposium.org

CH4HS: Carnegie Mellon

July 2011, dates TBD in Pittsburgh, Pennsylvania
www.cs.cmu.edu/cs4hs

RESOURCES

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

Page 1: CS & IT Symposium www.csitsymposium.org

Page 1: CSTA csta.acm.org

Page 1: Douglas Rushkoff rushkoff.com

Page 1: Norwood Elementary teacherweb.com/IL/Norwood63/MrsJamesTechnology

Page 2: Redware scratch.redware.com

Page 2: Scratch scratch.mit.edu

Page 2: Etoys Illinois etoysillinois.org

Page 2: Waveplace Etoys waveplace.com/resources/tutorials

Page 3: Oregon Game Project Challenge techstart.org/ogpc

Page 3: Oregon Robotics www.ortop.org

Page 3: NCWIT Aspiration Awards www.ncwit.org/award

Page 3: OPAS Initiative opas.ous.edu

Page 3: TechStart Education Foundation www.techstart.org

Page 5: Build Your Own Blocks byob.berkeley.edu

Page 6: CSTA National CS Survey www.surveymonkey.com/s/csta2011

Page 6: Top Secret Rosies www.topsecretrosies.com

Page 6: Computing Educators Oral History Project ceohp.org

Page 7: Michigan Technological University www.mtu.edu



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