

Podcast Snipits

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PODCAST

Definition: A Web-based audio broadcast

Etymology: iPod + broadcast

Example: There are over 30 podcasts in the *CS Snipits* collection on the CSTA Web site on a wide range of topics of interest to computer science (CS) educators.

Editor's note: *In an effort to provide additional opportunities for members to keep tuned-in and up-to-date, we have assembled a collection of podcasts we call CS Snipits. Each Snipit provides a brief overview of an interesting topic or a quick chat with an interesting person. We urge you to visit the CS Snipits, download a file, and share it with your colleagues and students. And we welcome your suggestions for future podcasts topics.*

Michelle Hutton, CSTA President, has several goals for improving diversity in CS and technology and knows that CSTA members have the skills and knowledge to take on the challenge. Listen to her plans for CSTA and her ideas for increasing diversity in the CS classroom.

Richard Tapia from Rice University is the namesake of the Tapia Celebration of Diversity in Computing Conference and is widely recognized for his work in encouraging and supporting underrepresented groups in math, science, and engineering. In our conversation he offers suggestions for building classroom diversity with strategies for making everyone feel welcome.

Take a look at the entire collection. Listen on your computer or download and save to an mp3 player.
(csta.acm.org/Resources/sub/Podcasts.htm)

Membership News

CS & IT Symposium a Texas-Sized Success

Chris Stephenson

They say that everything is bigger in Texas, and that certainly was the case for the eighth annual Computer Science and Information Technology (CS & IT) Symposium held in San Antonio, June 28, 2008.

This year's CS & IT Symposium attracted 187 educators for a full day of professional development focused on K-12 CS and information technology topics and issues. Teachers came from across the U.S., Canada, and Mexico to connect with their peers, share ideas, explore new interest areas, and learn new and better ways to engage all students in computing.

The Symposium, held just prior to the National Educational Computing Conference (NECC), featured 22 sessions on a variety of topics including diversity in computing, culture in the classroom, innovative teaching, computational thinking, the AP GridWorld case study, game development, and computing in the K-8 classroom. Sessions to introduce teachers to tools such as Google, Alice, Python, and open source were also well attended.

A panel discussion on the diverse pathways that lead individuals into CS was chaired by CSTA President, Michelle Hutton. Panel members included Harold Javid (Microsoft Research), Nina Kim (Google), and Debra Richardson from the Donald Bren School of ICS at the University of California-Irvine.

"The panelists made it very clear that there are many educational options and job opportunities in CS for individuals with diverse

interests and skills," said Hutton. "This panel emphasized that it is important for teachers to think outside the box when it comes to identifying and encouraging students who can succeed in CS."

Closing keynote speaker, Maria Klawe, President of Harvey Mudd College in Claremont, California, summed up many of the messages of the day by noting the importance of bringing diverse perspectives and skills to the work of CS. She also suggested that in order to solve the pressing problems of the world, computer scientists must become leaders and leaders must become computer scientists.

The CS & IT Symposium is hosted by CSTA and was generously sponsored by Google, the Intel Foundation, and Microsoft Research. For information regarding sponsorship for next year's event in Washington, DC, contact Chris Stephenson at cstephenson@csta.acm.org.

Details on the symposium and speaker presentations are available at www.csitsymposium.org.

The College Connection

Auburn University, Auburn, Alabama

Pat Phillips

Editor's note: *This interview with James Cross, Professor of Computer Science and Software Engineering at Auburn University, is the first in a series of interviews with CSTA institutional members. Please share these details about the computer science (CS) programs at Auburn University with your students.*

Auburn University is located in Auburn, Alabama, and has an enrollment of about 30,000. Students can earn a Bachelor of Science degree in CS, a Bachelor of Wireless Engineering degree, and a Bachelor of Software Engineering degree. At the graduate level students can earn a Master of Science and a Master of Software Engineering degree, as well as a Doctorate of Philosophy degree.

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

Cross: Auburn is a very friendly environment, and we have some of the best faculty and facilities in the Southeast. Our department just moved into the new Shelby Center with state-of-the-art classrooms, teaching labs, and research labs.

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

Cross: Since we are in a Samuel Ginn College of Engineering and our degree programs are accredited by the Accreditation Board for Engineering and Technology (ABET), our students are required to take the traditional mathematics and science sequences that are required for engineers. Hence, we urge high school students to acquire a solid background in mathematics and science.

A background in programming is always helpful, too. However, we do not assume entering students have had a programming course. Our CS1 and CS2 courses are taught in Java, and we use the jGRASP IDE which was developed and is maintained here at Auburn. It's extremely easy to use and has features that make learning to program an enjoyable experience.

CSTA: What cool careers are your graduates prepared for?

Cross: The types and categories of jobs that Auburn graduates are prepared for are very broad and range from aerospace and defense software development to game development, from network administrator to database administrator, from staff programmer to consult-

ant, and many more. Companies and agencies who hire our graduates include Boeing, Harris, Lockheed, IBM, Microsoft, NASA, NSA, CIA, Northrop Grumman, Raytheon, and many others.

CSTA: What topics will students study?

Cross: The CS curriculum, which leads to the Bachelor of Science in CS degree, provides an excellent preparation for students seeking careers as software professionals and in computing-related fields, as well as for those planning to pursue graduate study. The curriculum builds on a strong foundation in science, mathematics, social sciences, humanities, and CS, with advanced course work in theoretical CS, human-computer interaction, and net-centric computing. Course work ensures that students receive hands-on exposure to a variety of computer systems, tools, and techniques. Elective courses allow students to specialize in core areas of CS such as networking, database systems, computer security, and artificial intelligence.

The focus of the Software Engineering curriculum, which leads to the Bachelor of Software Engineering degree, focuses on the analysis, design, verification, validation, construction, application, and maintenance of software systems.

For more information visit www.eng.auburn.edu/programs/csse. Contact: Dr. James Cross crossjh@auburn.edu

Bits and Bytes

Celebrating Diversity

The Grace Hopper Celebration

The 2008 Grace Hopper Celebration of Women in Computing will be held October 1-4, 2008, in Keystone, Colorado. The conference is designed to recognize and celebrate the research and career interests of women in computing. Presenters are leaders in their respective fields, representing industrial, academic and government communities. Leading researchers present their current work, while special sessions focus on the role of women in today's technology fields, including computer science, information technology, research, and engineering.

This year's conference celebrates with the theme of "We Build a Better World." Fran Allen, IBM Fellow Emerita and 2006 Turing Award Winner, and Mary Lou Jepsen, Founder and CTO of One Laptop Per Child, will be keynote speakers.

The event is named for Rear Admiral Grace Hopper, known for her work on compilers and for making machines understand ordinary language instructions that led to the development of the business language, COBOL. Learn more about the Grace Hopper Celebration at gracehopper.org/2008/.

The Tapia Conference

The Richard Tapia Celebration of Diversity in Computing Conference will be held April 1-4, 2009, in Portland, Oregon. The gathering creates a supportive networking environment for under-represented groups across the broad range of computing and information technology, from science to business, from the arts to infrastructure.

University students are prominently featured in conference activities. The poster session focuses on new and exciting research by university students, and the top three posters in the graduate and undergraduate student categories advance to the ACM Student Research Competition Grand Finals. The Doctoral Consortium is a full-day sounding board to guide and encourage students working on their Ph.D.s. A Robotics Competition tests the skills of student teams in building and programming robots to operate in both virtual

and real-world environments. Student scholarships are available.

The Tapia Conference is named for Richard Tapia, a long-time faculty member at Rice University. He has been recognized for his efforts to recruit minority students in science and engineering. Learn more about the Tapia Conference at tapiaconference.org/2009/.

Chapter News

Welcome CSTA Oregon

CSTA Oregon, a long-standing local organization supporting K-12 computer science (CS), became the first official CSTA chapter last year and is already setting a high standards for meeting the needs of local teachers and students.

There has actually been a CSTA in Oregon for more than 20 years, but when CSTA was launched at the national level, CSTA OR joined the national organization first as an affiliate and then as an official chapter.

CSTA Oregon President, Ronald Tenison, has ambitious plans for the new chapter. "We are creating opportunities for computer science teachers at all levels to make connections and work together to improve CS education," says Tenison. "This includes providing new curriculum materials, training opportunities, and relationships with other professional organizations."

A CSTA chapter is designed to facilitate discussion of local issues, provide member services at the local level, and promote CSTA membership on the national level. Tenison notes chapter status will add value by helping to build interrelationships with other chapters. He also notes that CSTA OR will be able to use that national voice to help inform and advise local principals, boards, and legislators about CS education policies.

Status as a CSTA chapter provides a number of benefits. CSTA chapters' events are listed in the Voice and CSTA can help chapters identify and contact local CS teachers and university and college CS faculty. A CSTA Chapter Liaison is also available to offer advice and support.

Newly-formed chapters should ideally include local CS teachers and an educational site willing to host regular meetings. Obligations of chapters include having a minimum of 5 members, holding regular membership meetings, a leadership structure, ongoing communication with members, and a formal set of bylaws meeting CSTA requirements. Chapter applications are submitted in writing and chapter status is subject to approval by the CSTA Board of Directors, based on the recommendation of the CSTA Chapter Liaison and Executive Director.

For more information on forming a CSTA Chapter visit csta.acm.org/About/sub/CSTAChapters.html.

ETHNICITY OF U.S. AND CANADIAN CS&CE PH.D. RECIPIENTS 2006-07

Nonresident Alien	56%
African-American	1%
Native American	0%
Asian or Pacific Islander	13%
Hispanic	1%
White, Non-Hispanic	27%
Other	3%

SOURCE: www.cra.org/info/taulbee/ethnicity.html