

## CS Education Week Highlights

*Linking Canadian Universities and High Schools*

**Sherry McGratten**

In celebration of Computer Science Education Week, Canadian high school students will have opportunities to build their own avatar, learn about robotics, defend their computer against the dark arts, and learn about great moments in computer science (CS) history.

At last spring's Canadian Association of Computer Science (CACS) meeting, CS department representatives from post-secondary institutions across Canada decided to collaborate and host a multitude of outreach events.

Event organizer Michelle Craig, a faculty member at the University of Toronto, sums up the excitement surrounding CS Education Day: "On December 9, CS departments from coast-to-coast will be celebrating the value of studying CS and demonstrating not only how much fun CS can be, but the impact of CS on fields as diverse as environmental activism and fashion design. We're excited to share with our local communities, support high school CS teachers, and encourage students to take CS courses."

- Students from GS Lakie Middle School in Lethbridge, Alberta, will have the opportunity to create interactive stories and animations with the popular Scratch programming tool in sessions led by Dr. Jackie Rice and volunteer graduate students from the University of Lethbridge. For ongoing outreach, Rice and colleague Nicole Wilson recently launched LUMACS—life, u, mathematics and CS—to raise awareness of math and CS in everyday life.
- At the University of Toronto, Mississauga, 120 grade-9 math students will participate in a conference-like field trip designed to connect CS to concepts from the grade-9 math curriculum. Workshops will include: Understanding Secret Codes, Solving a Mystery with Computer Forensics, Inside Image Compression, CS Unplugged, and Introductory Python Programming.
- The University of Alberta is planning a day of Lego Mindstorms robotics and game development workshops for high school students.
- At the University of Guelph, visitors will meet students and professors as they tour Guelph's new software engineering lab.
- Brock University will host a full-day Computer Science Fair for local students in grades 9 and 10. Up to 175 students and their teachers are expected to attend.
- Undergraduate students from the University of Western Ontario made posters depicting great moments in CS history as part of their course work. The best posters will be presented to local high schools to celebrate CS Education Week and promote CS courses.
- The University of Saskatchewan, in conjunction with the Prairies NSERC/Cameco Chair for Women in Science, is hosting Connected 2010! This one-day interactive event for female students in grades 9 and 10 will include topics such as social media, animation, and wireless networks.
- At the University of Ottawa, CS Education Week will feature the CONTACT program. Local high school students will participate in workshops on programming with the Processing programming language and Lego Mindstorms.

The University of New Brunswick, the University of Toronto-St. George Campus, and Dalhousie University are also making

plans and more schools are expected to join the collaboration in the upcoming weeks. See what is happening in Canada during CS Education Week at [www.cacsaic.org](http://www.cacsaic.org).

## Promoting CS Education

*A Baker's Dozen of Ideas*

Do you need ideas for celebrating Computer Science Education Week? Check out dozens of classroom resources at [csta.acm.org](http://csta.acm.org) and [www.csedweek.org](http://www.csedweek.org).

1. Use the CSTA videos in the morning announcements.
2. Hold a CS poster, video, commercial or essay contest.
3. Provide CS career posters to the guidance office ([csta.acm.org](http://csta.acm.org)).
4. Host a CS party and invite school administrators.
5. Have students tell a story using Alice or Scratch.
6. Invite a computer scientist to discuss the many jobs in CS.
7. Conduct CS4FN ([www.cs4fn.org](http://www.cs4fn.org)) and CS Unplugged ([csunplugged.org](http://csunplugged.org)) activities.
8. Have students create a web page celebrating CS.
9. Plan student projects in collaboration with other courses.
10. Ask students to identify and discuss TV shows or movies that incorporate computers—current or from the past.
11. View Randy Pausch's "Last Lecture" video ([www.youtube.com/watch?v=ji5\\_MqicxSo](http://www.youtube.com/watch?v=ji5_MqicxSo)) or University of Washington CSE videos ([www.cs.washington.edu/WhyCSE](http://www.cs.washington.edu/WhyCSE)).
12. Ask students to discuss current events that involve CS.
13. Feature your CS Education Week activities in the local or school newspaper.

## College Connection

*University of California, Irvine*

**Editor's note:** *This dialog with Debra Richardson, founding dean of the Bren School of ICS, and Hal Stern, current dean of the school, is a continuation of our series of interviews with CSTA institutional members. Please share with your students these details about the CS programs at Bren:ICS at UC Irvine ([www.ics.uci.edu](http://www.ics.uci.edu)).*

The Donald Bren School of Information and Computer Sciences (Bren:ICS) at the University of California, Irvine (UC Irvine) is the only independent computing school in the University of California system. Located in the heart of Orange County, California, the campus is close to famous surfing beaches, desert and mountain resorts for hiking and snowboarding, and famous attractions and venues like Disneyland and Angels Stadium.

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

**Richardson:** Students are attracted to Bren:ICS for its highly-regarded faculty, extensive set of majors, and diverse curriculum. Students stay because of the strong social environment and because our advising and counseling staff is first-rate. The school offers over one hundred courses covering a broad range of topics. Students are sure to find multiple courses in their area(s) of interest, courses that not only introduce students to fundamentals but also explore topics in depth.

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

**Stern:** The broad range of majors and courses offered by

Bren:ICS means that students from a variety of backgrounds will easily find a place in an appropriate program in the school. Some incoming students have programming experience but this is by no means a requirement! A strong foundation in mathematics, communication, and qualitative skills is fundamental and will benefit all students.

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

**Richardson:** The Bren School continues its tradition of developing innovative educational programs with the recently developed undergraduate majors in Computer Game Science and Biomedical Computing. Bren:ICS offers a range of majors:

- Biomedical Computing
- Business Information Management offered jointly with The Paul Merage School of Business
- Computer Game Science
- Computer Science
- Computer Science and Engineering offered jointly with The Henry Samueli School of Engineering
- Informatics
- Information and Computer Science
- ICS Undeclared Pre-Major

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

**Stern:** Our students end up in cutting edge careers where they make a difference in the world, many of which are shaped by their engagements in research projects here at UCI. Examples of research that students have participated in include emergency response technology, developing learning tools for autistic children, and developing environmental tracking technology for a greener planet. The possibilities are endless.

Recent alumni have also taken exciting positions at animation giant Pixar, Internet companies like Yahoo! and Google, and local video-game developer Blizzard. Our alumni are also found at IBM, NASA, Microsoft, Deloitte and Touche, Unisys, Accenture, Merrill Lynch, Broadcom, and many other world-renowned organizations. Many students will go on to graduate and still others use their undergraduate training in computing and information technology as the starting point for professional education in management, medicine, or the law.

**CSTA: What CS promotional activities happen at your school?**

**Richardson:** ICS Day is an annual event planned by and for Bren:ICS students that brings together students and faculty for friendly competitions and networking opportunities. Bren:ICS students also have an opportunity to showcase their work and demonstrate their entrepreneurial spirits through events such as the HI TEC product development competition. This competition involves industrial mentors and over \$9,000 in prizes. Some of our students have also transformed their winning product ideas into actual startup companies.

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

**Stern:** Student organizations within our school include a student chapter of the Association for Computing Machinery (ACM), Women in Computer Sciences (WICS), and the Informatics Students Association (INSA). Bren:ICS Student Ambassadors also work with Student Affairs staff and host events (such as Java Chats with faculty, gaming competitions, and pizza mixers) to help build friendships among new and continuing students and create a strong sense of community and school pride.

The ICS Theme House in the Arroyo Vista housing community is a small, residential learning community open to Bren:ICS majors. Students enjoy activities like informal faculty chats, visits to local companies, career and graduate school information sessions, and social and community service events.

**CSTA: What unique programs promote the diversity?**

**Richardson:** The UCI student body is diverse, and students encounter numerous opportunities to learn with and from students whose backgrounds and experiences expand their

understanding of how to live and work in a multicultural society. Bren:ICS is an active partner with CSTA in a number of equity-focused projects. Currently, for example, we are working together on a new set of videos that will be released to help promote Computer Science Education Week. These videos are designed to encourage all students to see CS as a relevant and exciting field for study and work. Bren:ICS faculty also worked with CSTA to create key curriculum implementation resources to help teachers at the elementary level begin introducing core computer science concepts to children.

## Professional Growth

### Plan for SIGCSE 2011

**Tom Cortina**

SIGCSE 2011 (Special Interest Group in Computer Science Education) symposium will be held March 9–12 and the conference organizers are once again working to make the event both relevant and affordable for high school teachers.

The conference, which will take place at the Sheraton Hotel and Conference Center in Dallas, provides an opportunity for CS educators in college and high school to present recent work and share ideas. Friday, March 11, has been organized as a day of special interest to high school teachers.

A special discounted rate for high school teachers is available for Friday-only admission, which includes access to the Friday keynote session, technical paper presentations, vendor exhibits, posters and coffee breaks, and a copy of the symposium proceedings on CD. A set of selected papers and panels of interest to the high school community have been planned for Friday, March 11. For an additional fee, high school teachers can attend an evening workshop on Friday. And of course, teachers are welcome to register for the full symposium if they wish.

Check [www.sigcse.org/sigcse2011](http://www.sigcse.org/sigcse2011) for details.

### SHOW ME THE NUMBERS CS IN THE BEST 50 JOBS IN AMERICA

Rank	Job .....	Median Salary
1	Systems Engineer .....	87,100
5	IT Project Manager .....	98,700
8	Computer Security Consultant.....	99,700
12	Software Developer.....	79,400
16	Software Product Manager.....	106,000
17	IT Business Analyst .....	82,600
30	Network Engineer.....	86,200

Source: [www.focus.com/images/view/7362/](http://www.focus.com/images/view/7362/)

### CSTA Member in the News: Chinma Uche

#### Winner of the \$3500 Google/CSTA CS & IT Award

She will use the *Exploring Computer Science* curriculum along with *Google App Inventor* and Android phones to motivate and engage students in creative and innovative CS learning.