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## SIGCSE News in Brief

We want to give a big thanks to Henry Walker, Grinnell College, who is retiring as co-editor of the Bulletin. Christine Alvarado, UC San Diego, will replace Henry.

Did you make it to ITiCSE? Conference Co-chairs Tami Lapidot and Judith Gal-Ezer give us the lowdown and Henry Walker checks in with his own thoughts on networking at ITiCSE. ICER Conference Co-chairs Alison Clear, Kate Sanders and Beth Simon give us the top five reasons for attending ICER. And if you've attended a conference with kids in tow, you'll want to read about Kids' Camp by Susan Fox and Sarah Monisha Pulimood, who coordinated the camp at the 2012 SIGCSE Symposium.

SIGCE Board members, current and past, report in. Our Chair, Renee McCauley, gives us the highlights of her annual report to ACM. Treasurer Doug Baldwin announces the latest special projects awards. And Barbara Boucher Owens, former SIGCSE Chair, reports on the ACM Turing Centenary Celebration and the co-located Ed Council meeting.

Our new co-editor, Christine Alvarado brings news about the NCWIT Summit. And Debra Richardson gives us the final analysis on last year's CS Ed Week.

### Newsletter Credits

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- Photo credits: Hila Kadman, Maria del Carmen Calatrava Moreno, Barbara Boucher Owens, Henry Walker

## ITiCSE 2012: Chairs' report

by Tami Lapidot and Judith Gal-Ezer, Conference Chairs

The 17th Annual Conference on Innovation and Technology in Computer Science Education (ITiCSE 2012) took place in Haifa, Israel on June 3-5. ITiCSE 2012 was among the official Centenary events of the Alan Turing Year and all three keynotes were related to the Turing Centenary.



*Prof. Judith Gal-Ezer, ITiCSE 2012 co-chair, presents the first keynote speaker Prof. Michael Rabin, photo by Hila Kadman*

Turing award winner Prof. Michael Rabin, Hebrew University and Harvard University, talked about his vision of high school Computer Science Education; Prof. Lenore Blum, Carnegie Mellon University, talked about "Alan Turing and the Other Theory of Computation" and highlighted Turing's work related to the foundations of numerical computation; Prof. David Harel, Weizmann Institute of Science, presented Turing's major achievements in three different fields: computability, biological modeling and artificial intelligence, and explained how each of them motivated and inspired his own research interests.

The conference program included 60 papers, 3 invited panels, 13 tips, techniques & courseware presentations, and 23 posters. The topics covered a wide range of issues in Computer Science Education (CSE) with a strong emphasis on CSE research.

The 180 ITiCSE 2012 delegates (plus one dozen kids and three babies) came from 27 countries and gave the conference a real international flavor. The academic program was blended with a variety of social events. There was a pre-conference tour to the Sea of Galilee, a conference reception, and excursions to Galileo, Nazareth, and Acre.



*Excursion to Acre, photo by Maria del Carmen Calatrava Moreno*

The conference banquet, which took place in Acre, was an outstanding event, with excellent food, lively music, dancing, and the breathtaking scenery of the sunset over Haifa Bay. Other events included project demonstrations by Israeli high school students and a post-conference outing to Jerusalem and the Dead Sea.

We are grateful to the conference committee members, the Technion – Israel Institute of Technology and the Open University of Israel, our supporters, and all attendees for a great conference. We hope that our delegates take with them unforgettable memories of Israel and the conference!

More details about the conference can be found on the conference web site: <http://www.iticse12.org.il>.

## ITiCSE 2012: Networking and Community in Haifa, Israel

by Henry M. Walker, Grinnell College

Each SIGCSE conference provides a wonderful opportunity for networking. At ITiCSE 2012, conference co-chairs, Tami Lapidot and Judith Gal-Ezer, with their local committee, worked extremely hard to handle logistics and foster a sense of community. Most attendees stayed at one of three hotels, and shuttles brought everyone together during the trips between the hotels and the conference venue as well as during the conference.



*Sego Building, Technion (Israel Institute of Technology) — the main conference venue*

ITiCSE 2012 provided a wonderful opportunity to connect with Israeli students



*Posters presented by Israeli HS students*

and teachers. For example, an early poster session allowed local high school students to present projects they had developed. Also, several dozen Israeli high school teachers participated throughout the conference.



*Haifa across the bay from the banquet site*

The local arrangements committee planned a lovely opening reception, helping attendees renew contacts and meet new friends. The conference banquet was held at the Palm Beach Hotel in Acre — a shuttle bus ride from Haifa.

Located on the seashore, the banquet began with appetizers on the hotel grounds and a wonderful view of the sunset. Dinner was inside, with dancing to a local band.



*Dancing during banquet dinner*

## ICER 2012

by Alison Clear, Kate Sanders, and Beth Simon, ICER Conference Co-chairs



The 8<sup>th</sup> annual International Computing Education Research Workshop (ICER '12) will be held September 10-12, 2012, at Auckland University of Technology (<http://www.aut.ac.nz/>), Auckland, New Zealand.

ICER invites everyone interested in CS education to attend. Here are the top five reasons you should go.

#5 Meet new colleagues and old in a small welcoming environment. ICER is a single-track conference with 40-75 attendees. With a little effort, you can meet everyone at the conference.

#4 Discuss empirical computing education research. ICER is the premier conference in the field. Unlike SIGCSE, it is exclusively about empirical research. If you're curious about what empirical computing education research is all about, or if you're interested but don't have anyone to talk to at your own institution, this is the place to be.

#3 See both preliminary ideas (presented at the Lightning Talks) and final, polished research papers.

#2 Find collaborators for your next project. Whether it's someone else's idea (maybe from a Lightning Talk) or your own, this is your chance to discuss it, get feedback, refine it, and find others interested in the same questions.

#1 Explore lovely New Zealand. Haven't you always wanted to visit Middle Earth? Now's your chance!

To register and get more details go to: <http://wp.acm.org/icer-conference/>

## Conference Update



The 44<sup>th</sup> ACM Technical Symposium on Computer Science Education (SIGCSE 2013) will be held March 6-9, 2013 in Denver, CO, USA.

The deadline for papers, panels, special sessions and workshops is Friday, Sept. 7, 2012. The deadline for birds of a feather and posters is Monday, October 29, 2012.

More information is available at the conference web site:

<http://www.sigcse.org/sigcse2013/>



The 18<sup>th</sup> annual Conference on Innovation and Technology in Computer Science Education (ITiCSE 2013) will be held at the University of Kent, Canterbury, England on July 1-3, 2013. The conference web site is now available:

<http://www.cs.kent.ac.uk/events/iticse2013/>

## SIGCSE Symposium Kids' Camp

by Susan Fox and Sarah Monisha Pulimood, Kids' Camp Coordinators, SIGCSE Symposium 2012

At the 2012 conference in Raleigh, SIGCSE sponsored the fifth Kids' Camp, a childcare and educational experience provided to SIGCSE conference attendees. Professional caregivers planned games and craft activities for the younger campers. Older ones learned to use kid-oriented software to create animations and games; these computer-oriented activities connect the campers to the overall purpose of the conference.

Kids' Camp was started in 2008 to make it easier for parents to attend the annual SIGCSE conference. SIGCSE subsidizes the cost to make child care more affordable, particularly for young faculty and graduate students, who might otherwise not attend. In recent years Microsoft has generously supported the Kids' Camp by providing t-shirts, equipment, software, and personal expertise. Kids' Camp co-chairs and student volunteers run a variety of sessions to teach the campers to use educational software such as Scratch and Alice.

This year's Kids' Camp was held in a large sunlit meeting room in the convention center. We worked with four kids between the ages of 8 and 13, two kids between 2 and 5 years of age, and three babies under 12 months. Two mothers were able to nurse their babies in a private corner of the Camp room.

One of the highlights of the camp experience is a series of scavenger hunts that take place in the exhibit hall. In one scavenger hunt, the campers were asked to find people with particular badges or features, and to ask them to answer

questions about their jobs and education. In the second hunt, the campers followed clues to exhibitor booths to collect free gifts, and had to ask the booth representatives questions about their companies and career paths.

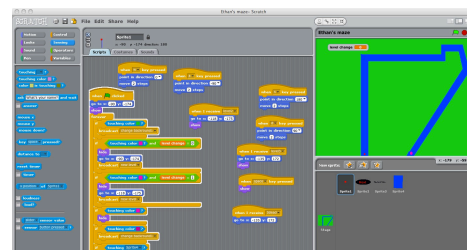
Campers also spent a lot of time visiting the Robot Playground to see and interact with robots.

A Microsoft representative, Pat Yongpradit, was present to teach the kids to use Kodu, a kid-friendly software package for designing video games.



*Kids' camp participants learned to use fun software like Kodu*

We challenged the kids to create games or animations inspired by the scavenger hunt. One game built in Scratch had the player navigate a maze, modeled on the exhibit hall, to track down a robot. Another game built in Kodu had an avatar hunting through a maze to find apples.



*Maze created by Kids' Camp participant using Scratch*

## SIGCSE Chair's Annual Report

by Renee McCauley, SIGCSE Chair

At the end of each year (July 1- June 30) ACM asks each SIG for information about awards given, significant papers published, significant programs, and key issues the SIG expects to face over the next three years. Here are highlights from the report.

Awards given include:

- Lifetime Service to the Computer Science Education Community: Jane Prey
- Outstanding Contribution to Computer Science Education: Hal Abelson
- Best conference paper awards:
  - ITiCSE 2011, Randy Connolly, "Beyond Good and Evil Impacts: Rethinking the Social Issues Components in Our Computing Curricula"
  - SIGCSE 2012, Jeremy Andrus and Jason Nieh, "Teaching Operating Systems Using Android"

Significant programs that provided a springboard for future efforts include the TauRUs (Taulbee for the Rest of Us) project, which was first funded as a SIGCSE Special Project. Recently, ACM announced that it will fund the continuation of this project.

The key issue that SIGCSE is expected to face in the next 3 years is further internationalization. SIGCSE representatives are discussing, with representatives from Informatics Europe, the possible co-sponsorship of a new SIGCSE-like education conference in Europe.

My complete report is available at: [www.sigcse.org/about/reports/chair-report](http://www.sigcse.org/about/reports/chair-report) and you can see the reports of all SIGs [www.acm.org/sigs/sgb/annual-reports](http://www.acm.org/sigs/sgb/annual-reports).

## Special Projects Grants Awarded

by Doug Baldwin, SIGCSE Treasurer

SIGCSE received 15 Special Projects grant proposals for the May 2012 funding cycle. The Special Projects Committee is pleased to announce that the following four grants have been awarded:

Anthony Allevato and Steve Edwards, Virginia Tech, "Pythy—A Cloud-Based IDE for Novice Python Programmers" (<http://pythy.cs.vt.edu/>). This project will develop a Web-based environment in which novice programmers can write and run Python programs and access documentation and tutorials. This environment reduces the barriers students often face if they have to install development tools on their own computers.

Tamara Denning, University of Washington, "A Computer Security Card Game: A Vehicle for Computer Security Outreach and Education" ([www.ControlAltHack.com](http://www.ControlAltHack.com)). Prof. Denning and her colleagues have developed a simple card game that builds awareness of computer security issues; the grant will support its dissemination to other schools. Watch for email to SIGCSE members with instructions on how to request a copy.

David Hovemeyer, York College of Pennsylvania, and Jaime Spacco, Knox College, "CloudCoder: Using Crowdsourced Programming Exercises to Improve Student Learning in CS1" (<http://www.cloudcoder.org/>). Many tools exist that automatically pose small programming exercises and check solutions; this project will extend one (CloudCoder) so that users can contribute and share exercises. In this manner the project hopes to encourage community development and adoption of high-quality exercises.

Ian Utting and Michael Kölling, University of Kent, "Supporting a Research Community around Web-Scale Data Gathering." A great deal of data has been gathered about the behavior of novice programmers using BlueJ. This project will create a Web repository to make that data available to computer science education researchers world-wide and will seek to build a community of researchers around the repository.

Congratulations to all the award winners, and thanks to everyone who submitted. As always, the Special Projects Committee looks forward to the next group of proposals. Reviews begin November 15, 2012. For submission instructions, see <http://www.sigcse.org/programs/special/> or contact [apply@sigcse.org](mailto:apply@sigcse.org) with questions. Even before a proposal comes in, the Special Projects Committee is happy to discuss project ideas with authors or answer questions, and we welcome contact from you at any time.

### **ACM Education Council Meets**

by Barbara Boucher Owens, former SIGCSE Board Chair

The ACM Education Council met June 18-19 after the ACM Turing Centenary Celebration (see next article) at the Palace Hotel in San Francisco.

This year the meeting focused on the impact of online and distance learning and on the in-progress curriculum revision for CS 2013.

John White, the ACM CEO, reported on the Turing Celebration and announced the launch of the Heidelberg Laureate Forum, an annual meeting bringing together winners of the most prestigious scientific awards in Mathematics (Abel Prize and

Fields Medal) and Computer Science (Turing Award) with a select group of highly talented young researchers. The first meeting of the Heidelberg Laureate Forum will take place September 23-27, 2013.

White also reported on the actions of the Ed Board including the acceptance of the TauRUs (Taulbee for the Rest of Us) project as an ACM effort. This project, which was begun by Mikey Goldweber, Xavier University, Cleveland, OH and further carried out by Jodi Tims, University of Pittsburgh, Johnstown, PA, was initially funded by two SIGCSE special project grants.

White discussed ongoing initiatives between SIGCSE and Informatics Europe and the possibility of a joint conference by the two groups. Other major projects involving the Ed Board are the CS2013 curriculum effort, computing in the secondary schools and the CS10K project. He highlighted ongoing discussions with ACM India, ACM China, the publications board and open access issues.

Andrew McGettrick, University of Strathclyde in Glasgow, Scotland and head of the ACM Ed Board and Council, identified six "new things" in CS education:

1. Embedded computing
2. Multi-core programming
3. Security including the intersection of security and social media issues
4. CS education with a new focus on the relationship of natural science, biology and computation

5. Problems of Human Computer Interaction with more emphasis on the “what” rather than the “how”
6. Promotion of education – “I compute therefore, I understand” as a mantra

The Education Policy Board, which is US-centric, and each of the SIGs with an interest in education gave activity updates. There were also updates on the CS Principles AP effort and the CS 10 K project.

Mathai Joseph, TCS, India discussed on the need for improving the quality of Indian education and online course development efforts.

Mehran Sahami, Stanford University, led a participatory session on online learning that included presentations by Candice Thille, Open Learning Initiative at CMU, Woodie Flowers, MIT, who hosted *Scientific American Frontiers* on PBS from 1990-1993, John Mitchell, special assistant to Stanford president Hennessey on online learning; Peter Norvig of Google, co-instructor of an immensely popular online AI course at Stanford, and Dave Patterson, UC Berkeley, who taught an online course on software engineering.

The next half-day meeting was devoted to discussing selected areas of CS 2013 that had been reviewed by council members for development of a strawman document.

A lot is going on in CS Education and there are many ways for ACM and SIGCSE members to be involved. Be sure to make your views known through requests for input!

## ACM Turing Centenary Celebration by Barbara Boucher Owens, former SIGCSE Board Chair

The ACM held its Turing Centenary Celebration on June 15 and 16 in San Francisco. Thirty-two recipients of the Turing Award, computer science’s equivalent of the Nobel Prize, attended the conference, and many of them spoke. To be surrounded by so many heroes and heroines of our discipline was amazing.



*Donald Knuth speaking at the ACM Turing Centenary Celebration, photo by Barb Boucher Owens*

The webcast of that event is available at <http://turing100.acm.org/index.cfm?p=webcast>. All of the talks are superb. You should take some time to browse the program and watch a few of the talks, like the one by the most recent winner, Judea Pearl.



*Recent Turing Award recipient Judea Pearl (far right) at the ACM Turing Centenary Award, photo by Barbara Boucher Owens*

## NCWIT, from a SIGCSE perspective

by Christine Alvarado, NCWIT Academic Alliance Co-chair

The National Center for Women & Information Technology (NCWIT) held its annual summit May 22-24, 2012 in Chicago, IL. As always, the overlap between Summit attendees and SIGCSE members was high, and SIGCSE members got a lot out of their experiences at the Summit. I asked two SIGCSE members to share their experience for those who have never been to an NCWIT Summit.

Jennifer Goodall of SUNY Albany writes:

“The NCWIT Summit in Chicago offered a great program. There was a balance between time devoted to hearing about the broad issues in larger keynotes or smaller breakouts, and time devoted to working through problems together in small clusters. One session that resonated with me personally and professionally was the session by Dr. Shelley Correll, who talked about the idea that while we may want to give survival skill strategies to women in predominantly-male environments, the more effective solution may be to have the organizations themselves change.

“Many of the NCWIT Summit attendees & SIGCSE members are like-minded and share similar concerns: how to best teach computing courses, how to attract and retain strong and diverse students, what worked, what didn't. The NCWIT Summit, however, gives us a shared experience and understanding about diversity issues in general or computing along the entire pipeline or best practices that have been borne out through the research.”

Diana Franklin of UC Santa Barbara writes:

“I attended the NCWIT Summit for the fourth time this May. The Summit was the best I have attended. Like last year, it had excellent keynote speakers that spoke

about research in sociology that answered questions relevant to gender diversity in computer science such as refuting the idea that males are better suited to engineering because of slightly better results on spatial ability tests.

“For the first time that I know of, the breakout sessions also included sessions by sociologists and psychologists, answering questions like whether having female teachers has an influence on females' perception of computer science (yes), whether there is a correlation between success and the presence of females on a team (yes), and how to reduce stereotype threat, which can cause females to perform poorly in high-pressure situations when they would normally do well.

“Finally, the Academic Alliance meeting challenged us to use what we had learned to make a plan for one change we would make when we returned. This year was special because I was being honored with an Undergraduate Research Mentoring Award. I found that my award gave me the confidence to talk to more people I had never met and caused others to approach me, as well.”

The NCWIT Summit is open to members and potential members of the NCWIT Alliances. To find out if your institution is a member of the NCWIT Academic Alliance (higher ed) or K-12 alliance (K-12) and to learn more about NCWIT please visit the NCWIT web site: <http://www.ncwit.org>. Membership in these alliances is free for participating academic institutions.

Details on the NCWIT summit, including archived video from the 2012 Summit, are available here: <http://www.ncwit.org/news-events/summit>.

## Computer Science Education Week Shines in 2011

by Debra Richardson, CSEdWeek 2011 Chair

The third annual Computer Science Education Week (CSEdWeek, <http://www.csedweek.org/>) was enormously successful with roughly double the engagement over the previous year. We can all look forward to CSEdWeek 2012 being even bigger and better, especially with the SIGCSE community's full participation.

CSEdWeek is a call to action to raise awareness about computing careers and the need to elevate the quality, quantity and visibility of computer science education. It provides a platform for inspiring students about computing, for motivating teachers to develop rigorous but innovative curricula and enhanced ways to engage students, and for providing the public with a better understanding of the need for computer science education.

CSEdWeek has been held annually since 2009, during the first full week of December—the week containing December 9<sup>th</sup>, the anniversary of Grace Murray Hopper's birthday. CSEdWeek is the primary awareness campaign of Computing in the Core (<http://www.computinginthecore.org/>), a non-partisan advocacy coalition of professional associations, corporations, scientific societies, and other non-profits that all seek to elevate computer science education to a core academic subject in K-12 education. As such, CSEdWeek 2011 was a collaborative effort of ACM, NSF, CSTA, NCWIT, CRA, ABI, Microsoft, Google, SAS, IEEE Computer Society, the College Board, NSTA and NCTM.

The primary form of engagement is to "Pledge for CSEdWeek" – a pledge to participate in and/or support (no donation required) CSEdWeek by raising awareness

of the role computing plays in all our lives and promoting computer science education for all students.

CSEdWeek has evolved significantly in its relatively short life, engaging more people throughout the world and yielding considerably more activities and events. Some notable highlights include:

- Pledges of support nearly doubled (3393) over 2010 (1700);
- Events and activities doubled (558) over 2010 (279);
- Social media engagement grew more than four-fold over 2009, with the greatest surge in CSEdWeek LinkedIn members, up almost ten-fold, showing increased engagement of the professional community;
- High-level press mentions rose from 4 in 2009 to 21 in 2010 to 59 in 2011.

CSEdWeek is a universal movement, with website traffic from 133 countries and pledges coming in from 48 countries. Moreover, all 50 states, DC, the U.S. Territories and the Armed Forces were represented among pledgers. Pledges came from K-12 and college students, teachers, professors, librarians and other educators, K-12 administrators and counselors, parents and other community members, and computing industry professionals.

For more information on how you can get involved, visit <http://www.csedweek.org>.

I'd like to acknowledge Cameron Wilson (of ACM) who leads Computing in the Core, Terry Ednacot (of Google) who served as project director for CSEdWeek 2011, and Ruthe Farmer (of NCWIT) who served as Vice Chair for 2011 and is now chairing CSEdWeek 2012. You can look forward to an upcoming SIGCSE Bulletin article from her encouraging you to participate this year.