



# CRA-W Newsletter

## Winter-Spring 2008

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### Upcoming Events and Deadlines

**April 5, 2008:** Distinguished Lecture Series at Colorado Regional Celebration of Women in Computer Science

**April 15, 2008:** Systems Discipline-specific Workshop applications

**April 24-26, 2008:** CRA-W Steering Committee/Board Meetings, Monterey, CA

**May 9, 2008:** CREU and MROW applications due

**June 16-18, 2008:** Systems Discipline-Specific Workshop, University of Delaware

**July 24-27, 2008:** Logic and Constraint Programming Discipline-Specific Workshop, New Mexico State University

**May-August, 2008:** US and Canadian Distributed Mentor Programs

**July 12-13, 2008:** CRA Conference at Snowbird

### Editor

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### Highlight on DMP Alum Sara Sprenkle



Sara Sprenkle is an assistant professor of computer science at Washington & Lee University in Lexington, VA. She teaches undergraduates and researches automated techniques to test Web applications' functionality. See more about Sara at <http://www.cs.wlu.edu/~sprenkle>.

Sara received her Ph.D. in computer science from the University of Delaware under the advisement of Dr. Lori Pollock. She earned her M.S. degree in computer science from Duke University and her B.S. in computer science and mathematics from Gettysburg College.

**Q: In your research, you have developed techniques for testing and debugging Web-based applications. How did you first become interested in this topic?**

During my second internship at IBM, I developed a prototype Web application that allowed mobile device users to manage and download software updates. Excited and nervous, I demonstrated my prototype to my group, and an internal IBM library I was using failed with the error message "You shouldn't be here... That's all folks!" I was mortified, but the group had a good laugh, discussing the humorous but unhelpful error message. As I tried to reproduce the error, I realized how difficult developing correct Web applications can be. You have to deal with many different factors: other people's code, Internet connectivity, distributed users, various browsers, etc. You need to test for a lot of different problems because they will always show up during a demo!

*(Continued on page 6)*

### Susan Landau Wins Anita Borg Institute Women of Vision Award

Susan Landau, Distinguished Engineer, Sun Microsystems, Inc. will be presented with the Anita Borg Institute Women of Vision Award for Social Impact at the awards banquet on May 8, 2008. This award is given to "a woman who has developed or applied technology with a significant impact on society and/or the community."

Over the last four years, ever since the FBI announced it would ask for the Communications Assistance for Law Enforcement Act to be extended to Voice over IP, Susan has been concerned about the building of surveillance technology into the communications infrastructure. She's been writing papers in various venues, including a law review article (to get the lawyers to understand the security risks), and talking about it in many places (CRYPTO, a security meeting in the UK, another in Switzerland, etc.) With Whit Diefie, she brought together a group of technologists to write a report that influenced Congress on this issue. When Con-



*(Continued on page 9)*

## Alum News

**Kate Tsui** [[ktsui@cs.uml.edu](mailto:ktsui@cs.uml.edu)]

*Grad Cohort 2007*

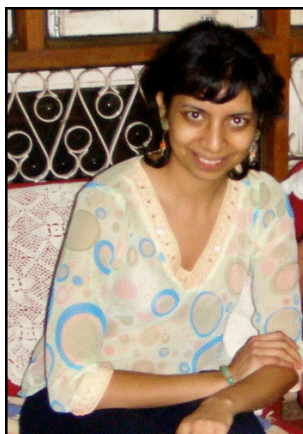


In September 2007, I formed a Women in Computer Science (WiCS) group at UMass Lowell. My objective when forming the group was to emulate my experience at the Grad Cohort in March 2007. As our department has a makeup of approximately 10% women, our group is to support all women in the department - faculty, graduate students, and undergraduate students. We deal with issues such as how to succeed as a women in computer science, work-life balance, and mentoring. We host "brown bag" lunch meetings for discussion of these topics. We also host guest lectures from successful women in academia and industry. If you are visiting the Boston area and would like to address our group, please email [wics@cs.uml.edu](mailto:wics@cs.uml.edu). For details about UMass Lowell WiCS, please visit <http://www.cs.uml.edu/wics>.

**Animashree Anandkumar** [[aa332@cornell.edu](mailto:aa332@cornell.edu)]

*Grad Cohort 2005, 2006; Grad Cohort 2008 (speaker)*

I am into my fourth year of my Ph.D. at Cornell and am thrilled to be working on my thesis titled, "Statistical Inference in Wireless Sensor Networks: Design of MAC and Routing". I was recently awarded the IBM fellowship for 2008-09. I was also a finalist for the Google Anita Borg scholarship 2007-08. I attended the Grace Hopper conference 2007 and was a finalist in the ACM student paper contest. I am thrilled to be a student speaker at this year's CRA-W grad cohort.



**Wei Ding** [[Ding@uhcl.edu](mailto:Ding@uhcl.edu)]

*Grad Cohort 2004, 2005*



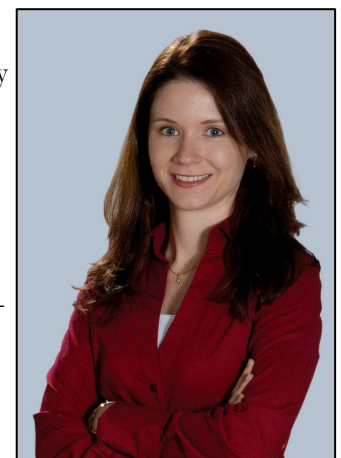
I am in my final semester of the Ph.D. program at the University of Houston. In 2007, I was selected as one of the twelve Ph.D. students to present my dissertation work on "Discovering Regional Knowledge from Spatial Datasets" at the Ph.D. forum in the Grace Hopper Celebration of Women in Computing; I was invited to organize a session for the

IEEE International Workshop on Spatial and Spatio-temporal Data Mining in cooperation with 2007 IEEE International Conference on Data Mining; I was also invited to give lectures on "Fundamentals of database systems" at the College of Software in Nankai University, a top research university in my home country China. In May 2008, I will attend the Pacific-Asia conference on Knowledge Discovery and Data Mining to present my paper "Towards Region Discovery in Spatial Datasets" in Osaka Japan. I am now looking for a faculty position in academia. The support and mentoring programs of CRA-W has guided me all the way through my graduate study.

**Kim Hazelwood** [[hazelwood@virginia.edu](mailto:hazelwood@virginia.edu)]

*CMW 2003, 2007, DSW Programming Languages 2007 (panelist), DSW Computer Architecture 2006*

I am in my third year as an assistant professor at the University of Virginia, and successfully completed my three-year review/reappointment. I received an NSF CAREER Award, an NSF CSR Award, a Google Research Award, an SRC-GRC Award, the FEST Distinguished Young Investigator Award, and was one of 20 junior faculty nationwide (and across disciplines) to receive a Career Enhancement Fellowship from the Woodrow Wilson National Fellowship Foundation, which provides a paid leave for the 2008-2009 academic year to focus on scholarly research and writing.



## Alum News

### Tracy Camp [[tcamp@mines.edu](mailto:tcamp@mines.edu)]

*CAPP 2004, 2005, CRA-W Board (DMP co-director)*

I became a Full Professor in August 2007. Four months later I received the Board of Trustees Outstanding Faculty Award at the Colorado School of Mines; this award has been given only five times since 1998. I am also the PI of a new NSF grant entitled "CONNECT: Creating Open Networks aNd Expanding Connections with Technology", a project that will be made available to attendees of the Grace Hopper Celebration of Women in Computing in October 2008. My students and I have produced 12 software packages that we share with anyone interested; as of December 2007, these software packages have been requested from more than 1000 researchers in 64 countries. Lastly, in 2007, I was invited to co-lead the Models, Testbeds, and Standards Group at the NSF Mobility in Wireless Networks Workshop and invited to co-direct CRA-W's Distributed Mentor Project (DMP).



### Svetlana Slavova

*Grad Cohort 2006, 2007*



I was really grateful for the opportunity to participate in the CRA-W Graduate Cohort Workshop in 2006 & 2007 in San Francisco, CA. It was a wonderful experience to meet one of the best women in Computer Science and to realize that everyone goes through similar difficulties during grad studies. The

workshop was eye-opening, brought to me even more motivation, energy, and spirit as well as helped me grow further. In August 2007, I successfully completed my 2-year M. Sc. program at the University in Saskatchewan, Canada. I was very proud of my thesis, entitled "Dynamic Selection Of Redundant Web Services." After my graduation, I started a promising IT job in the industry in my hometown of Varna, Bulgaria.

### Lyndsy Kron-Stopa [[lkron2@gmail.com](mailto:lkron2@gmail.com)]

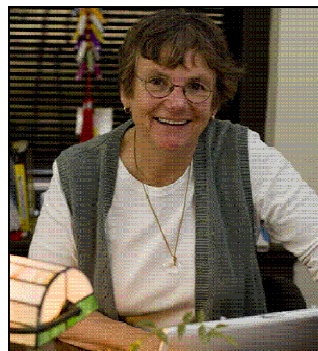
*Grad Cohort 2007, 2008*

I got married on December 29th, 2007 to David Stopa and I have accepted a position at Microsoft, which I will begin in June following my graduation from the University of Illinois at Urbana-Champaign with my Masters in CS in May. I also received a Siebel Scholar Fellowship this year.



### Barbara Owens [[owensb@southwestern.edu](mailto:owensb@southwestern.edu)]

*CREU 2001-2002 (mentor)*



I was elected Chair of ACM/SIGCSE (Special Interest Group in Computer Science Education) in June. I also received an NSF Planning Grant for the Computer Educator's Oral History Project in January of 2007.

### Dimple Kaul [[dimpykaul@gmail.com](mailto:dimpykaul@gmail.com)]

*Grad Cohort 2006, 2007*

I graduated with MS in Computer Science in May 2007. I am currently working as Programmer Analyst in Metavante Corporation. This company provides financial and banking software product. Recently my book entitled "Automating Middleware Configuration and Specializations." was published and is available on Amazon, Barnes & Noble and [a1books.com](http://a1books.com)



[http://www.amazon.com/Automating-Middleware-Configuration-Specializations-Dimple/dp/3836435101/ref=sr\\_1\\_1?ie=UTF8&s=books&qid=1201479068&sr=1-](http://www.amazon.com/Automating-Middleware-Configuration-Specializations-Dimple/dp/3836435101/ref=sr_1_1?ie=UTF8&s=books&qid=1201479068&sr=1-)

## Alum News

**Lilybert Machacha** [[l\\_machac@encs.concordia.ca](mailto:l_machac@encs.concordia.ca)]  
*Grad Cohort 2007, 2008*



I am a mother of five children and I am a Ph.D. student at Concordia University. I also have two masters degrees—one in Business Studies (Manchester, UK) and one in Computer science (UNL, Nebraska). I want to encourage other students who are in graduate studies now—if I made it, they can do it. It depends on having a partner who provides support and is family oriented.

It is not easy to have a child while studying because there is more work for the women. However, it was less difficult while I was teaching than while working in industry because of the flexibility of university teaching.

I had my first child during the second year of my undergraduate studies. I went to school until time for delivery. After my confinement, I went back to school. Because I was taking so many undergraduate courses, there was so much work I had missed. I stayed with my family for a while. Then, my husband, who was teaching in a college, offered to stay with the baby while I stayed in the dormitory to catch up with the work. He wanted me to have more time to study. During the day, the baby remained with a maid and during the night my husband took care of him. I would not have made it without a supporting partner.

My second child came while I was in the third year of my undergraduate studies. This time I had no sponsorship to go back to school so I had taken time off from school. I was working and so it was not difficult to have this baby. After saving some money from my work I went back to school to complete my degree.

My third child came while I was in my final year of my undergraduate studies. I worked very hard at school and I had a helper at home. People would ask me how I managed at school with my pregnancy but I would tell them that I had double intelligence because there were two brains. I felt very smart at that time, even though my statement is not scientifically proven. I passed all my exams and the baby was due the week of the final exam. I was very fortunate because during that week there was a student strike in the University of Botswana. All exams were cancelled and I had my baby. The following week I passed all my exams.

I got a job in the University of Botswana as a Staff Development Fellow (SDF). When my baby was one year, I went for a masters degree in Business Studies in UK. I left my

family at home in Botswana. My niece was staying with me at that time and she remained at my house and took care of my children. I finished my degree in nine months because I was working hard to go back. I think its better when your family is closer than far away.

My fourth child came while I was doing my masters in computer science. My husband was also a graduate student in the same school. My husband and I took turns going to the library in the evening and staying home with the children. I was not prepared when I had this child—it was difficult being far away from home, from relatives, and from my mother. For this child, my sister offered to come from Africa and help me with the baby. Thankfully, the baby was born during the Christmas break so I had more time before school re-opened. My sister helped with the baby for six months while I went to school; after that, we took the baby to daycare during the day.

I wanted to continue with a Ph.D. after the fourth child but I became pregnant with the fifth child. I decided to wait until the baby was older before I went back to school. I taught at the university until 2004. It was not difficult for me to teach and do research in the university with this child. I had enough time to take care of my child because I was teaching one course at this time.

Now my baby is 11 years old and I am in my third year of school doing a Ph.D. in computer science. My first child completed his first degree and the second child is doing her first degree. I have three girls and two boys and I am a proud mother of five and a student. Now, my children help me at home and I do not need a maid. I feel more fulfilled now with this family and as they go their ways during the day, I have more time for study and I do my research in the library. I have publications in IEEE journals. This shows that I can do both study and family. I make sure that the kids have lots of love. They should never be denied that no matter how busy you are. I play games with them on Saturday or we go out to eat where I can give them absolute attention. As long as I am working at home in the evenings they know I am around and when they need me they can reach me. I also help them with their homework and they go to sleep while I work late sometimes. Time management is the most crucial thing when you have a family. Sometimes I rest during the day when my family is not there and when they come I am prepared to take their stress. Sometimes a child is upset from school or they need help in many ways. I have to be strong for them, to encourage, teach, love, rebuke or admonish if necessary. Finally, I pray for my kids every morning so they can be successful and good. This gives us peace in the family.

## Interview with Susan Landau



Susan Landau is a Distinguished Engineer at Sun Microsystems. She has worked in algebraic algorithms, computational number theory, computational geometry, digital-rights management and security and privacy issues. She is an AAAS Fellow, an ACM Distinguished Engineer, and the 2008 recipient of the Women of Vision Award Social Impact Award (see article on page 1).

**Q: What do you do at Sun?**

I work on an unusual combination of security, cryptography, and public policy. Sometimes I am quite technical—I've run a security review of a set of identity management specifications, I've worked on implementing Creative Commons licenses in a Sun digital-rights management system—but more of the time I work on policy-related issues. Right now I am working on the security risks of U.S. government proposals for Internet wiretapping.

**Q: What do you mean by, "working on the security risks of U.S. government proposals for Internet wiretapping"?**

About three years ago, the FBI began pushing for building in surveillance capabilities into VoIP systems. At Sun we realized this was a problem for Internet innovation, but that it also posed a serious threat to security. More recently, there has been government warrantless national-security wiretapping that introduces serious security risks. So several of us have been examining these risks.

**Q: What specifically have you been doing?**

Well, last summer Congress passed the "Protect America Act," which allows warrantless wiretapping whenever one end of the communication is believed to be outside the United States. That's a huge change from previous law, which required a wiretap whenever (with very narrow exceptions) anyone inside the U.S. was wiretapped. There are numerous civil-liberty concerns, but I focused on security risks, and wrote an op-ed (<http://www.washingtonpost.com/wpdyn/content/article/2007/08/08/AR2007080801961.html?sub=AR>) that appeared in the

Washington Post. I was asked to speak on NPR's Science Friday and I also spoke at a Georgetown Law meeting aimed at Congressional staffers and journalists. I also did briefings in Congress. I thought it would be useful to have a longer, more detailed article on these issues, so several of us in computer security and networking wrote a paper entitled "Risking Communications Security: Potential Hazards of the "Protect America Act," (<http://www.computer.org/portal/site/security>), which appeared in IEEE Security and Privacy. This paper came out last fall. I know that our paper circulated on the hill. We were asked to supply questions for some hearings. I've also spoken on the issue in Canada and Europe.

**Q: Wow; that is surprising work for a technologist. What's your background?**

I was an undergraduate math major at Princeton, and when I started graduate school at Cornell, it was also in mathematics. But I ended up getting a PhD in theoretical computer science (at MIT). In my second year at Cornell, I took an algorithms course in computer science from John Hopcroft, loved the material, and never looked back.

**Q: How did you move into the technology policy arena?**

It was an accident. But like the accidents that happen all of us, it's easy to see choices I made that led me there.

I've been interested in public policy forever, and I always liked to write. Though I was a math major as an undergraduate, I also took a writing course from John McPhee as well as constitutional law. I've always had these other interests. While I was a graduate student, I wrote an article for the Notices of the American Mathematical Society on cryptography that discussed both the technical issues—public-key crypto—and the policy ones—the U.S. government's efforts to keep controls on cryptographic research. Then in 1987 the U.S. government tried to put a secrecy order on a piece of research done by three Israelis, and I wrote about that, again for the Notices. By then I was already a faculty member, so this was a bit complicated. Such a paper, even though it appeared in the AMS Notices, wasn't research and so didn't count for tenure. But I wrote the article anyway, because I thought letting the math community know about the various disputes in cryptography was important.

*(Continued on page 9)*

*(Continued from page 1: Sprenkle)*

**Q: Did IBM ever hire you again?**

Yes, I interned two more times at IBM, so I guess that minor disaster didn't go in my permanent record.

**Q: Your research could provide significant improvement in the expense of testing and debugging for these applications and in the quality of the software. How will you ensure that the results of your work can be applied in industry?**

The techniques are designed to be general so that they require only slight modifications for similar technologies. I have evaluated the work on several different kinds of applications that represent common applications. I also have talked to industry people to keep up on the technology they are using for Web applications. I plan to collaborate with some area industries to ensure that the problems I am addressing and the techniques and tools are in line with industry needs.

**Q: You are also interested in using innovative educational techniques in your courses. What techniques have you used in the introductory course you taught last fall?**

I love computer science, and I want my students to enjoy it too—and to continue on to be majors. Students are often turned off from computer science by their misconceptions about what computer science is and how it applies to their lives. I try to make basic programming assignments relevant, but that doesn't give students the big picture. So, once a week, we read an article that addresses the "broader issues" of computer science. We have read articles about the One Laptop Per Child project, the challenges of electronic voting, the DARPA Urban Challenge, and Facebook's NewsFeed algorithms and privacy issues. We talk about what you can do with computer science—help researchers learn more about zebras migration patterns, help underprivileged students get an education, and create a social network. The students get a broader view and appreciation of computer science and can see how these projects are bigger versions of something we've done in class. For example, after we've covered "if" statements, we read the DARPA Urban Challenge, where a competitor is quoted as saying "We were just one IF [statement] away from success." The students love making that connection.

**Q: Do you have plans to integrate some of your research results into the software engineering courses you teach?**

I am teaching a Web applications course this spring that will definitely have a strong testing component. We'll use state-of-the-art testing tools, including some my research group has developed, and discuss the strengths, weaknesses, and limitations of the tools.

**Q: How do you think working with undergraduates on research will differ from what you experienced as a graduate student at Delaware?**

I worked with undergraduates at Delaware during two summers—actually, three of those students came to Delaware through CRA-W's DMP. I have learned to propose very concrete, tangible projects for the students to work on, with opportunities for their own creativity. Working with students at W&L will be a little bit easier because I will know their background better—what courses they've taken and what material has been covered in those courses. I've had success working with undergraduates in the past—for example, the development of several tools that have increased research productivity and a conference publication with undergraduate coauthors.

I will be at Delaware for a month this summer with a W&L student. The student will get a mini-DMP experience—seeing what graduate student life is like and interacting with other students, while I will have the opportunity to collaborate with colleagues and get feedback on ideas.

**Q: What's the most difficult aspect of your career right now?**

This is my first year as an assistant professor, and I'm figuring out what kind of professor I want to be. While my vision is pretty clear, I can't do everything I want to do right now. My list of research, education, and service projects is much larger than I can accomplish in even the next three years. I need to prioritize, focus on a few projects, and keep in mind that I can work toward the other goals later.

(Continued from page 6: *Sprenkle*)

**Q: What do you enjoy most about your career right now?**

I have a lot of freedom and flexibility to do what I want to do—which is why it's hard to decide what I *should* do. In teaching, I'm having fun finding different ways to present computer science concepts, like talking about different ways to represent the NCAA basketball tournament games in a program. And, of course, I get to work with students. One reason I searched for jobs at small schools is so that I'd have a big impact on a small set of students, and I've already started to have that kind of impact.

**Q: What keeps you sane, outside of work?**

I go to the gym and read about pop culture in *TV Guide* and *Entertainment Weekly*. I know a lot about movies and TV shows that I have never seen. I also enjoy playing ultimate and being outside. I have a fun boyfriend and a nutty cat, who keep me entertained as well.



**Q: You participated in the CRA-W's DMP. How many times did you participate? Were you working with the same mentor each time? What made you apply for the program in the first place—a teacher at your school, another student, an ad you saw, other?**

I participated in the DMP during the summer of 1998—between my junior and senior years at Gettysburg College. My advisor Rod Tosten knew of Lori Pollock at the University of Delaware from a Gettysburg alumnus who went to Delaware for graduate school and really liked Lori. Rod knew about the DMP and contacted Lori on my behalf, inviting her to give a talk at Gettysburg and to meet with me. Lori visited and agreed to work with me, so we applied to the CRA-W together. Looking back, I now see

that it was important to Rod that I have a female mentor that he could trust to guide me in the next step of my career—in a much bigger pond than at Gettysburg. He had really good judgment!

**Q: What do you remember most about your DMP experience?**

The people. Lori is an amazing person who somehow balanced her career and raising three young children. I went to Lori's house for dinners several times. I watched her daughters and young son perform Spice Girls' songs. Lori's husband Mark made us "restaurant-style" desserts—with fancy syrup swirls. Every day, I ate lunch with then-graduate students Amie Souter Greenwald (who now does testing research at Alcatel-Lucent) and Chris Brown (now an associate professor at the US Naval Academy). Amie and Chris answered my endless questions—CS-related and everything else. Chris taught me to throw a disc correctly. On nice days, we threw on the quad. Oh, and I analyzed parallel programs and created control-flow graphs to aid in testing them.

**Q: How did the DMP experience help you make your decision about pursuing a graduate degree?**

I had no idea what graduate school was before I went to Delaware, and I had never seriously considered it. Learning that I could get teaching or research assistantships to pay for tuition and earn a stipend helped alleviate my money concerns. Through the DMP, I got a glimpse of various stages of graduate school. Amie was a second-year graduate student, starting to figure out her thesis topic. Chris was finishing his thesis about computer algebra. Amie and Chris were teaching summer courses too. The combination of Amie, Chris, and Lori gave me a clear picture of what I would be doing in the next 3, 6, and 10 years, and I liked what I saw: I could solve interesting problems, work with students, and have a life outside of computer science. And, the research I did that summer gave me confidence that I would be able to succeed in graduate school.

**New CRA-W Poster Available**

CRA-W is pleased to announce that a cool new poster is available online and in print format. Look for the poster at CRA-W events or download it today.

[http://www.cra.org/Activities/craw/images/CRA-WPoster0108\(c\)-6.pdf](http://www.cra.org/Activities/craw/images/CRA-WPoster0108(c)-6.pdf)

or write to [cromero@cra.org](mailto:cromero@cra.org) for copies

**Grad Cohort Celebrates Fifth Year**

The Grad Cohort Program is under the leadership of Mary Lou Soffa, University of Virginia, and Mary Jane Irwin, Pennsylvania State University. The Grad Cohort Program brings together women graduate students in their first, second, and third years of graduate school for a two-day workshop on graduate school survival, career planning, and networking. CRA-W recently held the 5<sup>th</sup> instantiation of the Grad Cohort workshop on March 13-14, 2008 in Seattle, WA. The program has grown substantially from the initial workshop in 2004.

Year	Graduate students	Applied	Accepted
2004	1st year	100	100
2005	1st, 2nd year	225	200
2006	1st, 2nd year	326	200
2007	1st, 2nd year	279	245
2008	1st, 2nd, 3rd year	349	291

Of the 291 students invited to attend in 2008, 230 graduate students in computer science, computer engineering, or technologies were able to attend. The program was expanded this year to accommodate third-year students.

Eleven of the invited panelists were students who had attended previous Grad Cohort workshops. The remaining 26 panelists were accomplished computing researchers from academia, industry or government labs. A full listing of the panelists and their brief bios can be found at:

<http://www.cra.org/Activities/craw/gradcohort/2008/documents/Speaker%20bio%20document%20GC%2008.pdf>



The three-track program (different tracks for first-, second-, and third-year students), includes a mix of formal presentations, informal discussions and networking activities. The panels focus primarily on sharing strategies for surviving and thriving in graduate school as well as advice on a more personal level based on the panelists' own experiences. The panel topics for the 2008 workshop included M.S. Job Search and Resume Writing Clinic, Finding a Summer Internship, Navigating a Technical Meeting, Finding a Research Topic, The Confidence Crisis, and Networking and Professional Development. The full agenda can be found at: <http://www.cra.org/Activities/craw/gradcohort/2008/documents/cohortagenda-2008%20final.pdf>.

In addition to the more formal panel activities, the students participate in informal networking activities (i.e., being grouped at lunch by research areas, developing and giving a brief "elevator speech" to learn how to communicate concisely and effectively, and a reception co-hosted by Microsoft, Google, and CRA-W). The workshop also includes a poster session at which the second- and third-year students have an opportunity to share their research.



After the Workshop, participants are encouraged to continue to build mentoring relationships and develop peer networks that will provide guidance and help throughout the remainder of their graduate careers. Participants are added to the Grad Cohort listserv and wiki. Students have also started a group on FaceBook to continue to network.

Plans are underway for the next Grad Cohort Program to be held in California in spring 2009. Information about potential speakers is being gathered and potential sites are being considered.

CRA-W thanks Microsoft Research and Google for their generous support of the Grad Cohort program.

*(Continued from page 5 Landau)*

In 1993, I found myself in an awkward situation in my career. This was just at the time that the U.S. government proposed Clipper, a system of strong encryption with keys escrowed by agencies of the federal government. There was a great public brouhaha about Clipper, and the ACM decided to put together a public policy committee to study the issue. I was asked to be staff for the committee, a somewhat odd situation, as I actually had a great deal of background in the area. But as I mentioned, my career was in an awkward place right then, and I accepted the staff position. The committee quickly realized my expertise, and so instead of stapling together other people's chapters, I wrote the report. This led to all sorts of things, including a book on cryptography policy with Whitfield Diffie, the co-inventor of public-key cryptography, one of the committee members, and a Sun Distinguished Engineer. Ten months after the book came out, Sun offered me a job, and I've been there ever since.

**Q: What did you do before you were at Sun?**

I worked in academia, first at a liberal-arts college, and then as a research faculty at a research university.

**Q: Why did you leave academia?**

That's a complicated question, or rather, it has a complicated answer. The short answer is that I am married to a computer scientist and when he didn't get tenure, we had to move during a difficult job market. We had small children and, in part because we were both theoretical computer scientists, our job hunt was very difficult. We moved somewhere that we had been led to believe would work out for both of us; it did not. So various things happened, including the ACM report, my book with Diffie, and then the offer from Sun.

**Q: How long have you been at Sun? Do you miss academia?**

I've been at Sun nine years. I never expected to go to industry. I originally went to graduate school because I loved to teach; I really only got turned on to research after my PhD. I was having a lot of fun in my work in algebraic algorithms when my job situation got bumpy. So after a difficult period, I ended up at Sun—and I am having a wonderful time. I am surrounded by really smart colleagues who are doing cutting-edge technology; I have lots

of freedom, loads of stimulation. I work with really smart technologists, with people in public policy, with people of all sorts of backgrounds and directions. It's a much broader swath than in academia. I'm learning a lot, all the time. I feel really lucky.

**Q: Do you have any advice for student as they plan their careers? Are there things you wish you did differently, things that you really did right that you want to share?**

Knowing what you want really matters. This sounds elementary, but it's not. You can't always get what you want, but knowing what you want—what research matters to you, what type of job/career you'd like to have, the balance you'd like to have in life versus career—enables you to make better decisions for yourself. That was something my husband and I didn't do very well early on (I like to think we're better at it now). And following what you love for part of the time is worth it even if doesn't lead to tenure or promotion. In my case, this was writing on science policy issues. For other people, it might be a "Friday project," a piece of research they really care about, even if it is not what is being funded right then. You feel good while you're doing it, and who knows? The work could lead you somewhere completely unexpected and tremendously exciting.

*(Continued from page 1: Landau)*

gress passed the Protect America Act last August, she wrote an op-ed that appeared in the Washington Post, briefed the House Intelligence Committee, and spoke at a DC policy conference. In all these activities, Susan participated as a scientist in a discussion of what the social implications would be of what looked like a purely technical decision.

Susan has also been heavily involved in Sun's digital-rights management stance, including the principles behind the Open Media Commons ([www.openmediacommons.org](http://www.openmediacommons.org)). This Web site states that users' privacy is important and that "All creators are users, and many users are creators." About this stance, Susan commented

"These two statements are strong and somewhat unusual in the context of the discussion of content and protection, and undoubtedly got attention in various quarters. I'm pleased to have participated in this, and pleased to have Sun take such a stance."

## Supporting Women in Research Labs

Kathleen Fisher, Susan Landau, Tessa Lau, and Joann Ordille

CRA-W sponsors a number of programs for women researchers working in either industrial or government research labs. Some of these programs are broadly focused with components of interest for women working in labs or considering doing so, such as the Grad Cohort and Mentoring Workshops. Other programs are more targeted at women in research labs. In this article, we discuss these more targeted programs.

### Travel Support Program.

This program provides emergency travel support for women working in research labs. When times are tough, such labs often dramatically limit travel with very little notice. Yet conference and workshop attendance is essential to building a research career, particularly for women in labs because of the isolation they may face at their home institutions. The CRA-W Travel Support program covers travel expenses to conferences or workshops for full-time female employees of research labs if their home institution cannot afford to send them. More information about the program is available on the web: [http://www.cra.org/Activities/craw/projects/industry\\_researchers/travel\\_support](http://www.cra.org/Activities/craw/projects/industry_researchers/travel_support). Tessa Lau and Kathleen Fisher administer the program on behalf of CRA-W.

### ResearchHers.

The ResearchHers list (<http://anitaborg.org/initiatives/systems/researchers-email-list/>) is a forum for women computer science researchers from industry and government

labs and academia, and works to break the isolation of women computer science researchers in industry, government labs, and academia. ResearchHers furthers the efforts of Systems (<http://www.systers.org/>), CRA-W (<http://www.cra.org/Activities/craw/>), and ACM-W (<http://women.acm.org/>), but it also has different aims than these groups. ResearchHers's purpose is to provide a forum for women computer science researchers to discuss any and whatever issues relating to themselves as women *and* computer science researchers. (Because ResearchHers is so narrowly focused, the list is not open to students, even those doing research, nor developers or managers.) The list is international, with about three hundred members from six continents and was established in 2004. Susan Landau is the list moderator.

### Profile of the Month.

Each month, we post a profile of a woman working in a research lab on the CRA-W home page for research lab activities:

[http://www.cra.org/Activities/craw/projects/industry\\_researchers/main.html](http://www.cra.org/Activities/craw/projects/industry_researchers/main.html).

Profiles from earlier months are also available. These profiles serve to highlight the diversity of women researchers working in labs, both in terms of technical and personal interests. Nominations for women to consider profiling may be sent to [crawprofiles@cra.org](mailto:crawprofiles@cra.org). Joann Ordille manages this program.

### Events at Grace Hopper Conference.

For several years, CRA-W has organized activities at the Grace Hopper Conference for women interested in industrial and government research labs. Past activities include sessions, birds-of-a-feather meetings, brunches, and lunches. This year the effort expanded to create submissions for a conference track on "Professional Research Labs." While the submissions are still under consideration, together they cover areas such as the culture, organization, evaluation procedures, and opportunities for advancement in research labs. They describe techniques for creating external visibility, learning and integrating business information, and transferring technology into products or services. This year there will be a luncheon for those interested in the labs. Joann Ordille is the contact for CRA-W research lab focused activities at the Grace Hopper Conference.



Kathleen Fisher of AT&T labs spoke with Christine Hang, a Ph.D. student at Northeastern Univ. at the 2008 Grad Cohort Workshop about how to find a research position. Christine is interested in working in a research lab when she finishes her Ph.D.

## News of Affiliated Groups

## Empowering Leadership: Computing Scholars of Tomorrow

Ann Redelfs

The Empowering Leadership: Computing Scholars of Tomorrow Alliance (EL Alliance), a National Science Foundation-supported program, includes dozens of partners that are committed to helping ensure the success of minority scholars in computing disciplines at tier-one institutions. These students are scattered so sparsely across the country that they may be the only one, or one of very few, minority students in their classes, and often do not have a network of formal and informal resources, support, and encouragement, so critical to all students.

The diversity of partners allows the EL Alliance to offer a range of resources and opportunities for students, including one-to-one and/or peer mentoring, participation in regional community building organizations, attendance at and participation in conferences, support for student research, invited speakers, and a means of brokering information about student support and opportunities.

According to Richard Tapia of Rice University, who is the director of the EL Alliance, "At the nation's top institutions, there are many choices inside and outside the university environment that offer vibrant opportunities and a welcoming environment. We aim to provide both within the computing disciplines."

Recently, UC Berkeley—one of the leading institutions in the EL Alliance—hosted several internationally renowned speakers, each of whom offered unique perspectives of value to students and faculty. The speakers were:

- Frances Allen, IBM Fellow Emerita & 2006 Turing Award Winner, IBM T. J. Watson Research Center, who gave a Regents' Lecture on January 31, 2008 entitled, "The Challenge of the Multi Cores: Think Sequential, Run Parallel." She was featured at the day-long 30<sup>th</sup> anniversary program celebrating the graduate women's group at UC Berkeley, (WICSE).
- Deborah Estrin, Director of the NSF Center for Embedded Network Systems, based at UCLA, who gave the McKay lecture on March 5, 2008 on "Wireless Sensing Systems: From Ecosystems to Human Systems." She was awarded the Anita Borg Woman of Vision Award for Innovation in May 2007.
- Marie-Ange Eyoum, who came to the US from Cameroon, West Africa, and earned her Ph.D. at UC Berkeley in 2006, is now a Technical Analyst to Chief of Staff of Intel Chairman, as well as an Intel Engineer.

The UC Berkeley EL Alliance group also brought five students, a faculty member and academic staff to the October 2007 Richard Tapia Celebration of Diversity in Computing (see photo). There were hundreds of students at the event, which focuses on student development and recognition of diverse researchers in computing. At the conference, the students met leaders in computing from academia, government, and industry, and networked with minority students from other institutions.

The University of Texas at Austin and Rice University, two more of the leading institutions in the EL Alliance, also brought groups of students to the Tapia 2007 Conference. Four months later, the UT Austin students started an EL Alliance group that is meeting regularly, visiting high schools to talk about careers in computing, and planning service activities. Rice University is hosting a Texas EL Alliance meeting on April 11-12 that will include students from throughout the state, and will serve as a pilot for other state or regional EL Alliance meetings to take place in 2008 and 2009.

To learn more about the EL Alliance, or to sign up to participate as a student member, mentor, resource provider, or advocate, visit <http://www.empoweringleadership.org> or write to [info@empoweringleadership.org](mailto:info@empoweringleadership.org).



Delegates to Richard Tapia Celebration of Diversity in Computing, October 2007, Orlando, FL (students from UC Berkeley unless otherwise noted). Front row (L to R): Kris Gates, Sheila Humphreys (Director of Diversity, EECS, UC Berkeley), Ruzena Bajcsy (faculty, EECS, UC Berkeley), Beth Truskhowsky. Back row (L to R): Apollo Ellis, Mark McKelvin, Jeffrey Forbes (faculty, Duke University), Arel Cordero, Gregory Lawrence, Chris Bryant (student, Duke University). Photo by Gregory Lawrence, UC Berkeley.

## News of Affiliated Groups (cont'd)

### ACM-W Activities at SIGCSE

**Gloria Childress Townsend**

“Educator” heads the list of professions for female ACM members. To reach these important role models for undergraduate and graduate students of computing and to solicit their help in addressing the problem of underrepresentation of women in computing, ACM-W members arrange a booth at ACM's SIGCSE Technical Symposium year after year. This year, CRA-W, the Coalition to Diversify Computing, and other organizations concerned with underrepresentation organized a neighboring booth to the ACM-W booth. All organizations benefited from the SIGCSE 2008's theme of improving access to computing for the underrepresented and the disabled.



Many ACM-W members attended the March ACM SIGCSE Technical Symposium in Portland, OR. Paula Gabbert organized the ACM-W booth from which we disseminated information regarding her ACM-W project, student

ACM-W chapters. (For questions and a CD that includes directions, a template for chartering a student ACM-W chapter, and additional resources, e-mail [paula.gabbert@furman.edu](mailto:paula.gabbert@furman.edu)). [Barbara Boucher Owens](#) led a BOF “Using Oral Histories in Curricular Planning.” Mary Anne Eagon participated in a panel, sharing information about her “Women in Computer Science” class. Lecia Barker, Joanne McGrath Cohoon (NCWIT), and Gloria Childress Townsend presented their paper (with Suzanne Menzel) about regional celebrations. (email [gct@depauw.edu](mailto:gct@depauw.edu) for a copy of the book that is a complete how-to manual for planning, organizing, and conducting a regional celebration.) Paula and Gloria led a BOF about their SIGCSE committee (Expanding the “Women-in-Computing” Community: <http://sigcse.org/topics/committees.shtml>), and collaborated with CRA-W and other organizations in a second BOF about diversity.

ACM-W invites all CRA-W newsletter readers who share ACM-W's and CRA-W's underrepresentation concerns to visit our web site <http://www.acm.org/women> to learn more about the projects listed in the preceding paragraph, along with additional projects such as scholarships for students to attend research conferences.

## Current CRA-W Members

Co-Chairs

Lori A. Clarke, University of Massachusetts

Lori L. Pollock, University of Delaware

Nancy Amato, Texas A&M University

Cecilia Aragon, Lawrence Berkeley Natl. Lab

Carla Brodley, Tufts University

Tracy Camp, Colorado School of Mines

Sheila Castañeda, Clarke College

Joanne Cohoon, University of Virginia

Carla Ellis, Duke University

Faith Ellen, University of Toronto

Kathleen Fisher, AT&T Labs Research

Joan Francioni, Winona State University

Maria Gini, University of Minnesota

Susanne E. Hambruch, Purdue University

Mary Jean Harrold, Georgia Tech

Mary Jane Irwin, Penn State University

Susan Landau, Sun Microsystems Laboratory

Tessa Lau, IBM Almaden Research Center

Margaret Martonosi, Princeton University

Renée J. Miller, University of Toronto

Joann Ordille, Avaya Labs

Mary Lou Soffa, University of Virginia

Telle Whitney, Anita Borg Institute

## About CRA-W

CRA-W is an action-oriented committee of the Computing Research Association dedicated to increasing the access, retention, and advancement of women in computer science and engineering research and education, including undergraduate and graduate students, faculty, and industry and government research labs. See more about CRA-W and its activities at <http://cra.org/Activities/craw/>.

CRA-W receives support from the National Science Foundation, EOT-PACI, Google, The Henry Luce Foundation, Lucent Technologies, Microsoft Research, Usenix, General Motors-Canada, NSERC, Intel, IBM, Sun, and ACM Special Interests Groups. We thank them for their generous support.

CRA-W encourages individual contributions from alums of our programs and other CRA-W friends, to build a broad base of supporters and to develop long-term relationships that, over the years, will help diversify CRA-W's funding sources. Because CRA-W programs have touched so many lives, this initiative is an outlet for alums and friends to make contributions toward reaching the next generation of women computer scientists and engineers. To donate to CRA-W, visit <https://www.cra.org/forms/crawgiving>