from the Co-Chair
By Gloria Childress Townsend, ACM-W Co-Chair

ACM-W proudly presents its second issue of the CIS Newsletter. This issue recognizes Wendy Hall, the new ACM President, and the Computing Educators Oral History Project (CEOHP), chaired in part by ACM-W's own, Barbara Boucher Owens. I'm particularly pleased with ACM-W's link to the "female pioneers in computing" concept that Barbara represents. I co-chaired the scholarship committee for the Grace Hopper Celebration of Women in Computing 2004 and analyzed the student scholars' evaluations of the conference. Events related to the pioneers' concept emerged as the most prevalently-mentioned, positive sessions of the conference. We, as the current image of computing professionals, recognize the value of Barbara's project in preserving the past and appreciating the present, but I think that we don't always realize how much our young students (the future of computing) value and appreciate the stories that pioneers tell us.

Spotlight on... Wendy Hall
e-nterviewed by Bettina Bair, ACMW:CIS Editor

Wendy Hall, the latest ACM president, is a Professor of Computer Science University of Southampton in southern England. She was appointed the University's first female professor of engineering in 1994. She then served as Head of the School of Electronics and Computer Science from 2002 to 2007. One of the first computer scientists to undertake serious research in multimedia and hypermedia, she has been at its forefront ever since. Hall is founding director, with Sir Tim Berners-Lee, Professor Nigel Shadbolt and Daniel Weitzner, of the Web Science Research Initiative.

BB: How and why did you go into a computing career?

WH: My PhD is in pure mathematics. I loved maths at school and was keen to read it at university. I wanted to stay in higher education after I got my PhD but there were few permanent lectureships in pure maths at the time. So I got temporary jobs lecturing maths to engineers, and then maths to trainee teachers. While I was at the...
teacher training college the first personal computers arrived on the scene and I was asked to set-up a course in BASIC programming at the college. They assumed as I was a mathematician that I would know something about computers, even though I had hated the computing course at University. Anyway, I took a Commodore PET home for the summer holidays, taught myself BASIC and really never looked back. I became so interested in how computers could be used in education that I took a part-time MSc in Computer Science to learn the subject properly. I then applied for and got a lectureship in Computer Science at Southampton (in 1984) and the rest as they say is history. I was inspired to become a computer scientist because of the potential of computers to help people get access to information - particularly multimedia information. My group was one of the first in the UK to start serious research in hypermedia and multimedia systems - something that was alien to computer science at the time. I never dreamt those career choices would lead me to where I am now.

**BB:** What's going on with multimedia and hypermedia these days that's new and promising?

**WH:** My answer to that has to be the semantic web, or the linked data web as it is increasingly being called these days since this better explains the type of web that semantic web technologies will enable us to build. Considering the Web was designed as a hypertext system, it is a remarkably difficult environment in which to build and maintain richly-linked hypermedia applications (everyone knows how hard it is to design and maintain good websites!). The linked data web is set to change this as it will enable us to more easily define relationships between objects on the Web as described by the metadata attributed to them. This is all beginning to sound too much like a research paper but this is where the excitement is for me in hypermedia and multimedia research. I’m very interested in the concept of personal digital memories which requires the development of a lot of new hypermedia and multimedia research technologies including the use of the linked data web. I am interested in learning more about how our brains store and retrieve memories and comparing and contrasting this with the way we handle digital memories. I am also one of the founding directors of the Web Science Research Initiative - which is taking a whole new look at how web-scale systems develop and the interaction between computer science and social science.

**BB:** With everything going on in your life, what are you doing for fun? And how do you find time for it?

**WH:** I have always lived life to the full- I work hard and play hard. I’m lucky in that I don’t need much sleep and seem to have boundless energy. I work very long hours (I’m not a good role model for achieving a healthy work-life balance). I have a very supportive husband, and we share a lot of interests in common. We plan social events and holidays well in advance and stick to our plans so that we can fit the fun stuff in. I enjoy my work and the people I work with.
I tend not to work with people whose company I don’t enjoy or who take life or themselves too seriously! Someone once said to me - something is only work if you don’t enjoy it. It is so true. I love travelling, doing new things, meeting new people - even if it gets very tiring at times. So although I’m working a lot of the time, I’m having fun most of the time too.

**BB:** You said that ACM should ‘take the lead in terms of increasing diversity in all aspects of our field’. What does that mean to you?

**WH:** It means the ACM has to make diversity issues a high priority in every aspect of what it does. That means every time we develop a new policy, or plan a new activity or campaign, we have to consider it from the point of view of diversity. For example, if we establish a new journal, we must consider the membership of the editorial board from the point of view of diversity as well as research expertise. But this doesn’t just mean gender - everything we do must be representative of all our members and it needs to be part of the culture of the organisation to think in this way. And it doesn’t mean positive discrimination - it means ensuring the decision makers at every level in the organisation are aware of diversity issues. We mustn’t make this a heavy-weight, top-down issue - volunteers are hard to find and we mustn’t make being a volunteer any more onerous that it is now. It’s all about changing the culture of the organisation and it will take time but I think the establishment of the new ACM-W Council and the ACM’s strategic focus on the internationalization are major steps forward.

**BB:** Where do you see ACM-W in five years? What kind of organization will it be? And with what mission/goals?

**WH:** The ACM-W Council has a voice on the ACM Executive and Council and will be the body that drives forward the ACM’s diversity policy, particularly with regard to gender. As well as continuing to manage all the activities that ACM-W runs currently, it will also manage the ACM’s relationship with external bodies such as NCWIT, CRA-W and ABI as well as encouraging the other Boards and Committees within the ACM to develop diversity policies. It’s very exciting.

**BB:** What advice do you have for young women in computing, on overcoming obstacles like culture and distance to become leaders?

**WH:** I have three pieces of advice, no four actually. Always aim high. Never accept no as an answer unless it’s the right answer... Find a good mentor...Focus, focus, focus... And finally, always make it fun when you can!

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Awards & Recognitions

ACM-W Athena Award presented at ACM Awards Banquet
Athena Lectures celebrate outstanding women researchers who have made fundamental contributions to computer science. Each year ACM honors a preeminent woman computer scientist as the Athena Lecturer, nominated by SIG officers. The Athena Lecturer will give a one-hour invited talk at an ACM conference. The award includes travel expenses to the meeting and a $10000 honorarium. Financial support for the 2008-2009, 2009-2010, and 2010-2011 Athena Lecturers, is provided by Google.

Shafi Goldwasser accepted the ACM-W Athena Lecturer Award at the ACM Awards Banquet in San Francisco on June 21, 2008.

ACM Presidential Award Honors Pat Ryan and Barbara Ryder
Patricia Ryan, ACM’s Chief Operating Officer, was recognized for her outstanding and fundamental contributions to ACM, serving as the conduit to which all volunteers turn for her encyclopedic knowledge of the Association and her steadfast resolve to respond to their needs. ACM has profoundly benefited over the years from Pat Ryan’s careful management of human and financial resources. Her boundless dedication to ACM is without equal.

Barbara Ryder was recognized for her devoted efforts as Chair of the 2003, and Steering Committee Chair of the 2007, Federated Computing Research Conference, as well as for her exceptional work on behalf of SIGPLAN’s History of Programming Languages conferences, including serving as Program Chair of 2007’s HOPL-III. Dr. Ryder has been a source of inspiration to women in the computing field, dedicating her services in their support, among them, serving on the Athena Lecturer Award Committee.

ACMW Welcomes New Ambassadors
The ACMW Ambassadors Program reflects its strong international presence and dedication to solving issues related to women and computing everywhere. These exceptional women have agreed to be the new representative of their country: Claudia Bauzer Medeiros (Brazil), Maria Knobelsdorf (Germany), Cecille Marsh (South Africa), Nahid Shahmehri (Sweden).

At the same time ACMW bids sad farewell to two ambassadors: Vashti Galpin (South Africa, 2000-2008) and M. Suriya (India, 2000-2008). We sincerely thank these two wonderful women for all their contributions and we wish them well for the future.

“Issues related to women in computing affect women worldwide”
women.acm.org/international.html
Ambassador Blog - Returners a Solution for the Skills Gap?
By Jan Peters, ACMW UK Ambassador

The UK IT industry predicts that the current skills shortage will intensify with the impending retirement of 1/3 of the UK IT workforce and continuing fall in the numbers of computing graduates. Numbers of women computing professionals in the UK peaked at 100,900 in 1999 representing 21 per cent of the UK’s computing professional workforce at that time. By 2003 this had fallen to 53,700, (Eurostat data from Platman and Taylor (2004)). New figures are due in early 2009, from an analysis that BCS( British Computer Society), Intellect (IT Industry Association) and e-skills are undertaking. This means that there is a potential pool of some 50,000 female IT professionals who are currently not in the profession.

As the war for talent heats up more enlightened employers are focusing on diversity with the realisation of the benefits of diverse teams: improved innovation and company performance as well as the importance placed on diversity in winning public sector contracts. The spotlight is falling on women and those on career breaks.

The ‘lost’ IT professionals are an increasingly attractive proposition for employers struggling to hire the right people. Research for the Equalitec Advancing Women Project (published in the report Equalitec: Career Prospects After Career Breaks, Niki Panteli, University of Bath, 2004 www.equalitec.org.uk), found that two years was a critical length of break from work. After this, there was a perception of there being major technical skills and knowledge gap by both the employer and the re-entrant, as well as a confidence gap. None of this is insurmountable when coupled with a supportive environment achieved by providing support to both the team and line manager, as well as the member of staff returning, by:

- coaching both the line manager and the returner;
- offering a mentor to both the line manager and returner;
- enabling flexibility options;
- suitably tailored training / skills refresher courses at the right level;
- recruitment processes that attract and enable diverse candidates to apply for posts.

As a partner of the Equalitec Advancing Women project BCS wanted to support IT professionals on career breaks as one of its strategies to tackle the skills gap. A series of workshops for women returners highlighted emerging trends and brought employers, academics and training providers together to focus on internet computing, IT security, health informatics and bioscience and IT.

“Successful return schemes found that many returners and re-entrants were found to be effective in less than 6 months after returning.” -- Elizabeth Pollitzer, Director of Equalitec.
But BCS wanted to do more. Learning from research by the UK’s Institute of Physics and Daphne Jackson Trust it appeared that those who planned for a career break were better equipped to return. BCS collated case studies and tips from BCS members and Equalitec participants and produced a career planning guide.

Alongside this approach BCS and Intellect held a round table of HR and IT directors, to draw together ways in which employers are working to encourage women and men to return or re-enter the profession after a break. Changing the perceptions of employers about the potential of this untapped pool of talent is key in building a workplace which is more flexible and responsive to both employees and clients’ needs.

In October BCS and Intellect will be launching both Taking a Break for IT professionals and Returners and Re-entrants for employers to learn from those pioneering the way. We wish to encourage the IT sector to wake up to the potential of both male and female returners and re-entrants. Our mission is to build a profession that is good for women and better for all.

Projects Spotlight

CEOHP Working Group meets at ITiCSE in Madrid
by Vicki Almstrum

The Computing Educators Oral History Project (CEOHP) is a grassroots project to collect oral histories from computing educators, make these oral histories available to the outside world, and develop associated materials that can be used to support recruitment, retention, and instruction. The project started in 2005 and since that time has developed a collection of 17 approved interviews. The original focus for the project was to capture the stories of women pioneers in computing education as they approach retirement. That focus has become broader after several insights. The first insight is that it is impossible to understand the stories of women without having the stories of men as a basis for comparison and contrast. This led to including oral histories from men (which account for 4 of the 17 approved interviews at the time of this writing). A second insight was that effective inspiration for young people is more likely to come from interviews with someone only a career step or two ahead. This is because it is likely to be easier for students to visualize reaching a goal not too far ahead of their current situation than one in their distant future. CEOHP has thus started adding interviews with younger individuals to the collection, building toward a stair-step model of interviews across all stages of an academic career. Other aspects of diversity represented by the collection are variety in institution type, job title, and geography (the collection already includes computing educators from North America, Europe, Asia, Africa, and the South Pacific).
At the end of June, 2008, an 11-person Working Group convened during the 2008 Conference on Innovation and Technology in Computer Science Education (ITiCSE) held in Madrid, Spain. The main focus of the Working Group was to begin analyzing the content of the oral histories, with the intention of looking at the underlying themes represented in these life stories. While our analysis work is only preliminary, we have already discovered some interesting themes. One line of investigation considered the interviewees’ advancement in academic computing; themes emerged related to being part of a dual-career couple or the caretaker for family members. Another line of investigation considered teaching philosophy. The philosophies that emerged tended to be personal statements about practical teaching goals and the interviewee’s feelings of obligation toward students. A different approach to analyzing the interviews explored career paths using a graphical representation. The graphs that resulted provided the basis for understanding similarities and differences in the paths that interviewees have followed from their undergraduate studies to their academic careers.

Yet another investigation used a more whimsical approach based on the tool wordle.net. This tool creates a word cloud that reflects the concordance of words within a piece of text, with words that occur more frequently larger than less frequent words. The illustration (left) shows an example of a Wordle word cloud from Nell Dale’s interview in the CEOHP collection.

Communities

**BCSWomen Lovelace Colloquium**
*By Dr Hannah Dee. Research Fellow, University of Leeds*

On 16 June 2008 students from about 20 different universities, all over the UK, descended upon Leeds for the inaugural BCSWomen Lovelace Colloquium. The central event of the day was a poster contest allowing students to discuss their own work with other attendees, and thanks to the generosity of our sponsors (Google, The University of Leeds, IBM, Womenintechnology.co.uk, E-skills, Yorkshire Water and Shell) we were able to provide transport costs to students who presented posters (and accommodation costs for the farthest travelled).
An inspiring keynote talk was given by BCS Chair Rachel Burnett, and then attendees were treated to a brilliant set of talks on technical material from Profs Anne DeRoeck (Open Uni) and Susan Stepney (York Uni) on the academic side and Drs Beth Hutchison (IBM and Jana Urban (Google) on the industry side. Jana flew in from Google Zurich and Beth flew up from IBM Hursley, and it was great for the students to see this level of support from big name companies. The formal part of the day concluded with a panel session on the general topic of computing careers, and the informal part began with a social featuring wine (and cake!). The aims of the day were to show women undergraduates that they can have a successful career in computing, and to enable them to talk and network with other women computer scientists, and we succeeded in both of these!

WIT’08 II: Workshop on Women in Information Technology – Brazilian Computer Society
By Claudia Bauzer Medeiros, University of Campinas; and Karin Breitman, Pontifical University of Rio

WIT is an initiative of the Brazilian Computer Society (SBC) to discuss gender issues in Information Technology (IT) in Brazil - success stories, policies to foster participation, and ways and means to attract and involve the young, especially women, in IT-related careers. Organized around guest speakers and panels, the workshop concentrated on debating problems related with women’s access to IT - the job market, digital inclusion and literacy. WIT was held on July 15, 2008, Belem, Para - Northern Brazil, and organized by Claudia Bauzer Medeiros and Karin Breitman, both CS faculty and part of the board of SBC.

The first workshop (WIT’07), held in Rio in July 2007, was a big success, and raised considerable interest in the Brazilian IT community. Most of the attendees were not aware of all the issues involved, and the workshop attracted the attention of many other scientific and political forums, which considered WIT to be an interesting and novel idea.

Like its first edition, the second WIT was held within the annual SBC conference. This large conference attracts from 1500 to 2500 participants every year, and is one of the 40-odd conferences promoted by SBC annually. It includes parallel, events directed towards undergraduate and graduate students, high-school teachers, university faculty and IT professionals. In 2008, there were 2400 participants in the annual conference, held in the city of Belém, in Northern Brazil.

WIT’08 was held in a small room (70 seats). From its start, there was standing room only, and many people had to sit on the floor - see pictures of audience. At peak times, an estimated 110 people were in the room. Most of the participants were undergraduate students from all over the country - some had travelled over 60 hours by bus to come to the conference. About 30% were male, who declared
they were attending WIT because they were “curious to know what this is all about”. About 10% of the people present had already attended WIT the previous year.

The event was divided into talks given by guest speakers, and a panel to discuss regional differences and gender in Brazil. Participants were encouraged to interact with the speakers and talk about their impressions on gender issues in the country. The conclusions were that there are no regional differences: from 50% women in the 80’s, IT courses are down to 10%. This in spite of the fact that they are getting the majority of grants, with increased enrollment numbers (in all other areas)!

**History | Gender | Computing Conference**

*By Vicki Almstrum*

On May 30-31, 2008, the Charles Babbage Institute (CBI) at the University of Minnesota presented a day-long public conference with the title **HISTORY | GENDER | COMPUTING**, followed by a one-day workshop. The conference portion, which included eight papers from six countries, examined gender and the diverse uses of computing in offices, libraries, schools, mass media, and the computing profession. In addition, a scheduled poster session showcased five innovative projects (including the Computing Educators Oral History Project; an article about this project appears elsewhere in this issue). In the one-day workshop, paper and poster authors participated in discussions and exercises such as finding themes within groupings of pictures from the CBI archives. As the conference began, CBI debuted a new exhibit with the title, “Gendered Bits: Identities, Practices, and Artifacts in Computing.” The exhibit, which was curated by CBI archivist Arvid Nelsen, explored how gender has shaped the professional identities and material culture of computing.

Of the many intriguing ideas, we include a few highlights here. One speaker surveyed library computing, gender, and metadata labor, pointing out that “housekeeping” and “service” have traditionally been gendered concepts. Another speaker, who is doing doctoral work on the history of women in computing, described the historical perception of men as the “brain” of computer work (control) and women as the “eyes” (data entry). A study of ads in Greek popular computing magazines discovered a large number of computing ads picturing female eyes, usually blue or green, with computer screens and windows frequently portrayed as the “eyes” of an artificial woman. Another speaker made reference to an article from *Cosmopolitan* in April 1967, “The Computer Girls”, which included reasons why a “Cosmo girl” should consider working with computers. Another speaker explored the role of masculinity in the history of computing and how gender has interacted with other social factors, with a warning to be cautious about buying into the “exodus theory” from computing, because stasis needs as much historical explanation as does change.
An interesting underlying theme throughout the conference related to creative work such as knitting, needlework, and cooking. A centerpiece in the Gendered Bits exhibit was the Internet Quilt created to honor Diane Close for her years of support with Usenet communities (panels from the quilt are featured on the conference webpage referenced on the previous page). One of the posters shared results from interviews with North American textile artists for whom technology is a key ingredient in their work. A speaker who presented statistics about the status of women in computing fields used examples of knitting and macramé to illustrate concepts of DNA and mathematics - and also punned that these artistic endeavors knit together ideas from the various fields. Grace Murray Hopper came up throughout the event; she once said “Planning a program is just like planning a dinner;” one of the pictures we categorized during the workshop exercises showed Admiral Hopper, in full uniform, sitting in a conference session and working on a needlepoint piece.

In summary, the conference on History | Gender | Computing was a stimulating and exciting opportunity. CBI is coordinating publication of a volume with contributions from the paper and poster authors who participated in this event.

**Tales from the Career Front**

*Dennis J. Frailey, for ACMW:CIS*

Throughout my career I’ve worked with (and often for) women in various computing-related jobs. ACM-W has graciously given me some space to report on some of the career issues and myths I’ve encountered. In this first installment, I’m going to deal with one of the most pervasive myths about careers in computing fields: “computing majors will end up working for software companies and will spend most of their careers writing code”. To test this I sent an email to about three dozen women in my professional colleague email address book - which simply means I’ve corresponded with each of them professionally at least once in the past 20 years. Most of these earned their bachelor’s degrees in the 1980’s or 1990’s. My only criterion was that they majored in computing or math or else they work with computers today in some fashion. Within an hour I had four responses and almost two dozen by the end of the week. Most agreed to be interviewed in future columns like this, and I plan to do just that. But for now, here are a few selected quotes (the individuals’ names have been changed and company names omitted, but the quotes are real).

**Carlotta** (currently a project manager for a major defense contractor). “Technology is a great leveling tool for genders - you can’t tell gender over IM, text, email, etc. That’s great news.” … “What technology often does not address is the ‘white space’ - places where there are significant opportunities or where problems have not yet surfaced (but are indeed there).” Women in our industry have excelled when they address the white space - raising
issues effectively, putting together cases for action, unsolicited proposals for improvements or new product/service ideas. ... Technology can get lost in the trees and miss the forest.”

**Angie** (currently a manager for a well known vendor of accounting and tax software). “A huge misconception that students have is that if they major in CS, they will be writing code 24/7. I tell them that actually writing the code is a small part of the job. There is a great deal of analysis and communication that must be done. Also, there are many careers in CS besides coding. Business Analyst, Software Quality Assurance, Software Configuration Management, testing, etc. Women with excellent written and verbal communication skills, and a technical degree, can excel.”

Angie went on to address a related issue. “Some women choose to work part time or even take an employment break when they have children. Computing jobs can be VERY flexible and I know some women choose to work part time for several years and then come back full time later. I have one woman who works while her kids are in school. It’s not an all or nothing field.”

**Barb** (a manager for a large corporation). “I taught math for several years while my sons were young. I then joined [semiconductor manufacturer] with a focus on software development projects. [Then I went on to] [computing and consulting firm] ... in management positions for software development projects. [After that I moved on to] [data base software company] ... in management positions for software product support and software product development.”

There’s a theme here☺. Each of these women started out in computer science or math, did some work as a software developer, and moved on to very responsible management positions, although in different kinds of companies. Several of my respondents pointed out that they haven’t actually written any code for at least ten years, although a few still do - some prefer development to management. One took pains to point out that she now makes 4 times what she did when she started. And several noted the career boost that a sound technical degree gave them, even though their current jobs may not be very technical at all.

As I reflected on these responses I realized that virtually everyone on my contact list, male or female, who has worked for more than a few years is now in a job where leadership and communication skills are more vital than programming skills. Fewer than one tenth of the list work for “computing” companies. Most work for Proctor and Gamble or Raytheon or Hallmark Cards or General Motors or some other organization that applies computers in order to conduct their business or improve their products.

Next time we’ll have an interview with one of these individuals, to illustrate how a typical career might progress.
Final Words
by Bettina Bair, Editor

This issue included many stories featuring a non-US point of view. Clearly we have a lot to learn from each other, no matter what hemisphere we live in. We are united by our common passion for equity, recognition and of course, technology.

What kinds of stories would you like to see in future issues? Email me at acmw-cis-editor@acm.org

Upcoming Dates & Deadlines

Anytime: Charter an ACM-W Student Chapter: women.acm.org/reqs.html
September: CFP Michigan Celebration of Women in Computing (MICWIC)
  www.cse.msu.edu/micwic
  Visit the ACMW booth!
October 1: ACM-W Scholarships for Attendance at Research Conferences:
  women.acm.org/scholarships.html
November 6-7: NCWIT meeting, University of California Irvine
  www.ncwit.org
November 14-15: Advanced Career Mentoring Professional Development
  Workshop (CAPP). Apply now. www.cra.org/Activities/craw/capp
November 24: CFP deadline for Ohio Celebration of Women in Computing
  (OCWiC) www.ocwic.org

:-)

ACMW Women’s Performance Jacket w/ Embroidered Logo

“I love the jacket, will bring it to Grace Hopper and wear it lots. It feels really comfortable.”

Dr. Catherine Lang
ACM-W Australia Ambassador

cafepress.com/acmw