Computing research programs at the National Science Foundation and the Department of Energy’s Office of Science are among those slated for increases in fiscal year 2010, though appropriations legislation that would keep those agencies on a path to double their budgets over the next six years. Congress approved the last of twelve annual appropriations bills necessary to fund the operations of government on December 18, providing a healthy increase to the NSF budget, a more modest increase to DOE’s Office of Science, and a slight increase in real terms for the National Institute of Standards and Technology.

Basic research at the Department of Defense also will see an increase in FY 2010, though the Defense Advanced Research Projects Agency (DARPA) will see a 4.5 percent decrease over concerns raised by Senate appropriators about management issues at the agency.

While these science agencies will see budget increases in FY 2010, in each case the approved increase falls short of the President’s requested budget for FY 2010 for that agency. Typically, congressional appropriators use the shortfall between what the President requested and what they appropriate to pay for congressionally directed projects (also known as “earmarks”) to provide increases Congress believes the Administration wrongly failed to request for other agencies or programs.

National Science Foundation

Funding for NSF will grow to $6.93 billion in FY 2010, an increase of 6.7 percent over FY 2009, but $118 million lower than the President’s requested budget for the agency. Included in that increase is an even larger percentage increase for NSF’s Computer and Information Science and Engineering (CISE) directorate. CISE will receive $620 million in FY 2010—less than the $635 million requested by the President, but 8.1 percent greater than the FY 2009 budget.

NSF’s Office of Cyberinfrastructure (OCI) also fared well in the final appropriation, receiving $215 million in FY 2010. This represents an increase of 7.7 percent over FY 2009, but below the President’s requested increase of 10 percent.

NSF’s Education and Human Resources directorate received $873 million for FY 2010, an increase of 6 percent over FY 2009, and $15 million more than the President’s request.

Department of Energy’s Office of Science

On October 28, 2009 Congress finished work on the FY 2010 Energy and Water Appropriations bill (P.L. 111-85) containing funding for DOE’s Office of Science. The Office received just over $4.8 billion in core funding, an increase of 3 percent compared to FY 2009, plus an additional $77 million in congressionally directed spending. The appropriation includes funding for the Advanced Scientific Computing Research (ASCR) program, which will receive $394 million in FY 2010, an increase of nearly 7 percent over FY 2009.

National Institute of Standards and Technology

NIST will receive $603 million for its core research efforts in FY 2010, an increase of 9.6 percent compared to FY 2009. Included in that funding is nearly $58 million in congressionally directed programs. Removing that earmarked spending results in a real decrease of 0.1 percent compared to FY 2009—a level below the Administration’s requested funding level of $637 million.

Department of Defense

The FY 2010 Defense Appropriations Bill includes funding for all DOD research, including DARPA and the Defense research labs. In the run-up to the final bill, Congress Approves Increases Continued on Page 7

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Connecting Teachers with Computer Scientists

By Jan Cuny

Hands-on, discovery-based, lab experiences are known to be an essential part of middle and high school students’ education in all STEM disciplines, including computing. We tend to think of “labs” as test tubes and beakers, but in reality they can be defined much more broadly. A lab can be any place where students can explore, experiment, test, design, and get their hands dirty and their minds engaged. A lab could be a mountaintop to a geologist, a computer link to a distant particle accelerator to a physicist, a factory floor to an industrial engineer, or a laptop to a software engineer. A lab can be physical or virtual; it can be anywhere that authentic lessons in science, technology, engineering, maths, and computer science can be designed into the learning happening.

The National Research Council’s 2006 America’s Lab Report concluded that “The quality of current lab experiences is poor for most students.” That is certainly true of many students’ hands-on experiences of computing, which too often are limited to keyboarding, word processing, and spreadsheets. Some schools do a great job teaching computing, but many more do not. Many of our students are taught computer literacy but not computational thinking, not the fundamentals of computer science. Many of our students never experience the empowerment that comes from being able to adapt and bend computation to their ends; they are users but not creators of technology. Too often they do not understand what they are using, or how it could be used better. As a community, we have the responsibility to change this. National Lab Day gives us the opportunity.

National Lab Day is an unprecedented, national effort to bring more high-ability, hands-on, discovery-based lab experiences to middle and high school students. It is more than just a day. It’s a nationwide movement to support STEM education in our schools. It’s teachers working with community volunteers, and communities rallying around teachers to give kids access to well-equipped labs and to the professional scientists, engineers, and mathematicians who can inspire them. Scientists and engineers in computing are certainly included; we are an integral, though often ignored, part of the STEM community. But we can only be integral to Lab Day if we step up to the plate.

National Lab Day focuses on the needs of participating teachers. Teachers are the experts who best know their students and their project needs.

Connecting Teachers

Continued on Page 6
Expanding the Pipeline

CRA-W Showcases Its Programs at the Grace Hopper Celebration of Women in Computing

By Joann J. Ordillle

On September 30, the Grace Hopper Celebration of Women in Computing opened at the J.W. Marriott Conference Center in Tucson. The sold-out crowd totaled 1,570 women and men including 520 industry and government professionals, 213 academic faculty and staff, and 698 students. The conference attracted globe-spanning participation with attendees from 22 countries and all continents except Antarctica. You could see leaders from Africa, educators, executives from popular technology companies, students, prominent researchers, presidents of universities, and social change agents in excited conversation. Combining excitement and fun with learning and mentoring is one of the best ways to strengthen the computer science pipeline.

The Computing Research Association Committee on the Status of Women in Computing Research (CRA-W) is a founding sponsor of the Grace Hopper Conference, and has participated in every conference from the very first. This year, CRA-W expanded its participation and leveraged its long history of successful programs to contribute to two important new conference programs: the Robotics Track and the CRA-W Mentoring Workshops. CRA-W also launched a new effort at the conference to help undergraduates build and execute a strategy for applying to graduate school.

CRA-W Board Members participated in a variety of conference leadership positions. CRA-W Board Member, Professor Tracy Camp of the University of Colorado - Boulder, was this year’s Program Chair and will be General Chair in 2010. CRA-W Board Member and past Co-Chair, Professor Lori Pollock of the University of Delaware, will be Program Co-Chair.

Grace Hopper 2009 included keynotes from leaders of research and industry, the special research track on robotics, a session with technology executives on how to join their ranks, technical papers by graduate students and recent Ph.D.s, a student poster session, special talks on using computer technology to ignite social change, and a variety of sessions on technology, research results, career skills, and expanding participation in the computer science pipeline.

The Robotics Track was inspired, in part, by the success of the Discipline-Specific Mentoring Workshops (www.cra-w.org/d/ds), sponsored by CRA-W and CDC. The Coalition to Diversify Computing (www.cdc-computing.org) and the Coalition to Diversify Computing (www.cra-w.org/cdc) programs presented the track. The track was led by CRA-W Board Members Professor Maria Gini of the University of Minnesota and Professor Manuela Veloso of Carnegie Mellon.

The Robotics Track included talks on “Engineering and Self-Organizing Systems,” by Professor Radhika Nagpal of Harvard; “Living Better with Robots,” by Professor Cynthia Breazeal of MIT; and “Challenges and Results of Multi-Robot and Multi-Human Systems” by Professor Manuela Veloso. Participants discussed how the life of insects can inspire better robot design, how robots can be made invisible to help people in everyday tasks, and how symbiotic relationships of robots and humans can achieve even better results. The track also included a panel on “Career Paths in Robotics” chaired by Professor Gini and including panelists Dr. Sonia Chernova of MIT, Dr. Ashley Sroouf of JPL, Dr. Kristen Stubbs of iRobot.

Also new to the conference this year were three CRA-W Career Mentoring Workshops which received an enthusiastic, packed-hall reception from conference attendees. The workshops, sponsored by CRA-W and the Henry Luce Foundation, addressed the needs of undergraduates, graduate students and early career researchers, respectively, in advancing to the next stage of their careers. The workshops were organized by Dr. Joann Ordillle of Arizona Labs Research.

The undergraduate workshop included sessions that moved from why a student might consider, and even be excited by, a career in computer science, to how to prepare for and apply to graduate school, and to what life is like once there. One student commented that she was inspired by the world of possible jobs and specialties described by Professor Soha Hassoun of Tufts and Dr. Tessa Lau of IBM Almaden.

Another workshop, organized by Dr. Joann Ordillle of Arizona Labs Research, was provided a sampler of the types of programs included each year in CRA-W’s Grad Cohort for Women (www.cra-w.org/gradcoh). The Grad Cohort is a two-day program that provides career-building sessions and creates a community for sustaining students through their graduate work. The Cohort is open to first- and second-year graduate students, and is generously funded by Google and Microsoft.

The workshop for early career researchers also attracted advanced graduate students who were curious about what kinds of opportunities provided techniques for building one’s research program and preparing for promotion in the initial five years after graduation.

Dr. Cecilia Aragon (Lawrence Berkeley National Laboratory) and Professor Justine Cassell (Northwestern University) explained how to...
CRA Announces Outstanding Undergraduate Researcher Award Winners

The Computing Research Association honors the recipients of its 2010 Outstanding Undergraduate Awards, sponsored this year by Mitsubishi Electric Research Labs (MERL). Microsoft Research and MERL sponsor the awards in alternate years.

Winner, Female Award
Justine Sherry is a Senior at University of Washington with a double major in Computer Science and International Studies. A longstanding impediment to the study of the Internet is that it does not explicitly expose information about its topology, paths or performance. Utilizing the IP timestamp option (an obscure and little-used aspect of the IP specification) Justine developed several techniques to measure unknown aspects of the Internet. She contributed critical timestamp-based algorithms to the Reservior Trustee Project, which discovers routing paths from a distant host back to a local source, improving both its accuracy and coverage. Having become probably the world’s greatest expert on the IP timestamp option she then turned to developing solutions to two other Internet measurement problems using IP timestamps: router alias resolution and measuring the skewness of backbone links.

In addition to performing valuable research, Justine serves as Vice Chair of the student chapter of ACM at her university, where she worked to engage other undergraduate students in research by recruiting graduate student poster sessions and introducing the undergraduate research information sessions at the University of Washington. She is currently the Chair of the student ACMW women’s chapter.

Runner Up, Female Award
Xuejin (Alice) Zhu is a Senior at Harvard. A central problem in pen-based interfaces is how to transition smoothly between drawing and editing. Beginning in her sophomore year, Alice proposed, built and tested a novel pen-based interface technique and has continued to work on the system. In 2009, she won first place in the ACM student research competition for this work.

In addition to doing high quality research, Alice is a superior student maintaining the best GPA of any CS major in her class while doing extensive work as a TA. She has won many prestigious awards in computer science, including an Anita Bong Scholarship and a Microsoft Scholarship.

Winner, Male Award
Elyot Grant is a Senior at the University of Waterloo majoring in Mathematics and Computer Science. Working under an undergraduate research award, Elyot was presented with a list of well-known open problems and rapidly proceeded to solve several of them. The most important relates to Kuratowski’s theorem on closures in topological spaces and how it relates to formal languages. In particular, he discovered he can be a clever and subtle proof that there is a clopen partition between two words if, and only if, the words do not commute. In the short time since then, Elyot’s ideas on the topological separation of words have already been taken up by researchers in Europe, which shows that these ideas are important and in the mainstream of theoretical computer science.

After completing the work above, Elyot joined a separate research project in the area of Combinatorics and Optimization, and produced interesting results on approximation algorithms for NP-hard covering problems. In addition to possessing mathematical skills, Elyot is an expert programmer and has held a number of programming jobs while in college.

Winner, Male Award
Richard Matthew McCutchen is a Junior at the University of Maryland majoring in Computer Science and Mathematics.

Matt has a long history of research going back to high school. His high school work on the “popular matching” problem (e.g., matching a set of people to jobs trying to satisfy their preferences) has already been cited by several other researchers. At Maryland, Matt has worked on streaming algorithms for clustering and developed a new algorithm for handling outliers. Matt also has worked on various projects in the area of programming languages.

Aside from research, Matt has maintained a near-perfect GPA and has had great success at programming contests. He has qualified for the International Olympiad of Informatics three times, winning two gold medals and one silver medal.

Runner Up, Male Award
Zachary Apple is a Senior at Harvard. A central problem in making Caltech’s Arthur Samuel Lab more productive is how to detect sarcasm. After completing the work above, Zachary joined a separate research project in the area of Computer Vision and Optimization, and produced interesting results on approximation algorithms for NP-hard covering problems. In addition to possessing a perfect GPA, Dh has solved an open problem in theoretical Computer Science with applications to computer vision, and began research on practical application of his ideas to image processing.

Di’s work focuses on the NP-hard problem of Quadratic Unconstrained Binary Optimization (QUBO), which captures the essence of a variety of vision problems. Dr. Enrde Boros has identified a family of lower bounds of the optimal value, denoted by C2,C3,C4,..., and C2 can be computed using network flow. Two questions are of great interest: 1) Can we construct the instance C2 generalized to C3,C4,..., and C2 and identify partial optimal assignment from the computation of the lower bound? For the particular bound C3, Di’s work answers both questions in the affirmative.

Finalists, Female Award
Andrea Bodnar, Worcester Polytechnic Institute; Svetlana Lockwood, Washington State University; Corietta Teshera-Sterne, Oregon State University; Rita Sodt, University of Washington; Olga Zurovecich, Harvard University.

Finalists, Male Award
Aleksandr Arkhipov, MIT; Paul Carusello, Princeton University; George Chen, UC Berkeley; Andrew Owens, Cornell University; Volodymyr Kulyk, McGill University; Tom Morgan, MIT; Feng Shi, Duke University; John Silberhault, University of Maryland; and Edgar Solomonik, University of Illinois, Urbana Champaign.

Honorable Mentions, Female
Jaqueline Adessa, Virginia Tech; Christina Brandt, Cornell University; Heather Buatidi, Rensselaer Polytechnic Institute; Jeannette Chang, University of Southern California; Jennifer Chen, Princeton University; Nina Chen, New York University; Milka Dokucu, Mount Holyoke College; Shelby Gao, University of Victoria; Allison Hoch, University of Maryland at College Park; George Mason University; Kateryna Kuksenok, Oberlin College; Rachel Lathbury, University of Virginia; Ainsley Lawson, University Toronto; Jamila Moore, University of Arkansas at Little Rock; Jamila Safari, University of British Columbia; Corieta Telesh-Sterne, Mount Holyoke College; and Manasi Vartak, Worcester Polytechnic Institute.

Undergraduate Award Winners Continued on Page 4

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Many institutions are about to head into recruiting season, during which we carefully scour applications, statements of research interest, letters of reference, and sample publications, looking to identify great candidates who are going to boost our institution’s productivity and reputation for the next 40+ years. For our own students hitting the market, we all spend time honing their research skills, helping them craft their job talk, and providing advice on how to get through the rounds of interviews with senior faculty if they are headed onto the academic market, or with professional recruiters if they are headed to industry. Many of us think of those research skills as critical, and separately we try. Many of us think of those research skills, helping them communicate their ideas.

This is not to imply that our community fails to pay attention to this issue. Many institutions have tackled the problem, providing seminars on developing these skills or leading discussion groups with graduate students on ways to manage research groups. But I suspect that more attention to this topic would enhance the ability of our graduates to lead future institutions.

Two examples from my own institution illustrate possible approaches, though of course there are many other options and many other institutions also have developed solutions. Like many institutions, we regularly survey our alumni and alumni, seeking insights into what skills have served them well in their careers and how we can help develop those skills. Several years ago, we found that communication was deemed essential by our alumni/alumnae, but we were not doing a particularly good job in instilling those skills. In response, we changed our requirements for all our undergraduates, installing a set of communications-intensive courses that all students must take, at least one per year.

Departments often opted to augment existing courses, for example, by providing instruction and feedback on report writing in laboratory or project-intensive courses. We opted, however, for a different perspective—we created a course explicitly about communication, tackling topics such as: how does one form a model of the audience and use that to guide oral communication; how does one send email without annoying the recipient; how does one create and deliver an elevator pitch; how does one respond to challenging questions; how does one conduct a negotiation; and so on. More formally, the outcomes of the course state that upon completion students will have learned how to critically evaluate technical presentations, architect technical presentations, present technical material to different audiences at different levels of detail, give and receive constructive feedback, and communicate more effectively in a professional setting.

While students in initial versions of the course questioned its value, claiming that such “soft skills” were of little value, current students get the point—they see the impact of these skills in lining up summer internships or jobs upon graduation, and in fostering professional growth. While communication skills can always benefit from refinement, there are other soft skills that are equally important, especially for young faculty members or industrial researchers. Examples of issues that confront a young faculty member include: “What do you do when confronted with an apparently unmotivated student? How do you deal with interpersonal conflicts that could jeopardize your research? How does your institutional operation help or limit you in different situations? How would you communicate successfully with that key donor who thinks very differently from you?” (Quoted from the MIT Faculty Newsletter, Vol. XVIII No. 5, May/June 2003). To address these challenges, one of my colleagues created a course to provide training for junior faculty—a course that has helped many to better run their groups, communicate with their peers, and train their students to refine their own leadership skills.

The point of these examples (and of course many other institutions have incorporated similar efforts) is to illustrate a broader issue. As research institutions, we understandably focus on training our students to succeed within what we perceive to be the constraints of a research career. But we should not ignore the non-scientific and non-technical, but equally important, aspects of a research leader—someone who can communicate with a wide range of audiences, mediate conflicts, and manage groups, as well as articulating and executing exciting new research directions. And if we do this, perhaps in a few years we will no longer lament the lack of corporate demands, and communication skills.

Eric Grimson is the Bernard Gordon Professor of Medical Engineering and head of the Electrical Engineering and Computer Science Department at MIT.

Undergraduate Award Winners from Page 3

Honorable Mentions, Male

Ali Asaf, McGill University; Stephen Bach, Georgetown University; Brandon Blakeley, University of Texas at Austin; Gabriel Churette, McGill University; Jesse Cohen, Harvard University; Yi Ding, University of Massachusetts, Amherst; Daniel Eisenberg, Carnegie Mellon University; Adam Ernst, Princeton University; Ethan Fast, University of Virginia; William Hamilton, Texas A&M University; Robert Hendert, Hobart and William Smith Colleges; Jonathan Jenkins, Lafayette College; Sam Kerr, Purdue University; Eric Kimbrel, University of Washington; Brian Li, University of Wisconsin, Madison; Cedric Yen Yu Lin, University of British Columbia; Christopher Louie, UC San Diego; Barry Lumped, Arizona State University; Gabriel Martinez, Virginia Tech; Sajid Oral Mehmood, Princeton University; David S. Noble, Jr., University of Virginia; Oleg Ovchinnikov, University of Tennessee; Jordan Rhee, UC San Diego; Garrett Ridge, University of Louisville; Daniel Ritchie, UC Berkeley; Alejandro Vega, University of Texas at El Paso; and John Wright, University of Texas at Austin.

This year’s selection committee included Richard Watten (Mitsubishi Electric Research Labs), Chair, Michelle Craig (University of Toronto); Ann Gatz (University of Texas at El Paso); Eric Grimson (MIT); and Hank Korth (Lehigh University).

By Eric Grimson, CRA Board Chair

Musings from the Chair

Are We Fully Training Our Graduates?

COMPUTING RESEARCH NEWS

January 2010

Department Chairs and Lab/Center Directors

CRA Conference at Snowbird

MARK the DATES! — July 18-20, 2010 —

See Draft Program on pp. 23-24

CRA Service Awards 2010

Distinguished Service Award

A. Nico Habermann Award

Nominations Due: January 29, 2010

Details: http://www.cra.org
On October 24-30, 2009, ninety-seven people gathered at the Parc 55 Hotel in San Francisco, CA, for the “Discovering and Innovating in Health IT” workshop (see: www.cra.org/cc/healthit.php). This invitation-only event, co-sponsored by several federal agencies and non-profit organizations, sought—through a series of plenary and breakout sessions—to explore and define fundamental research challenges and opportunities in using information technology to improve health and healthcare.

In co-sponsoring the workshop, the National Science Foundation (NSF) Office of the National Coordinator for Health Information Technology (ONC), National Institute of Standards and Technology (NIST), National Library of Medicine (NLM), Agency for Healthcare Research and Quality (AHRQ), Computing Community Coalition (CCC), and American Medical Informatics Association (AMIA) asked leading computer scientists, medical practitioners, systems engineers, and social scientists spanning academia, industry, and government to identify mutual research interests in health IT, as they relate to near- and long-term challenges and solutions; and to define a range of "model" proof-of-concept, integrative systems that might serve as motivating and unifying forces to drive fundamental research in health IT and accelerate the translation of research outcomes into products and services.

The workshop was structured as a series of four half-day sessions. The first three sessions were comprised of two plenary talks followed by small-group (about 10 people per group) breakouts. The small groups defined particular research challenges, multiple lines of attack, and possible roadblocks or demonstration systems. At the conclusion of each session, the groups delivered short presentations summarizing their conversations and the plenary talks and reports will be available at www.cra.org/cc/healthit.php shortly. Workshop organizers selected the group participants for the first two sessions, opting to assemble people with diverse backgrounds within each group; while participants self-selected the group participants for the third session. The groups were asked to approach their discussions by considering the "perspectives" of patients and caregivers during the first session; "processes" such as prevention, prediction, diagnosis, intervention, rehabilitation, and monitoring during the second session; and their own research interests during the third session. The fourth half-day session provided an opportunity for workshop participants to synthesize the research opportunities defined throughout the earlier parts of the meeting and frame a call to action for the future.

The workshop was comprised of individuals carefully selected to represent the wide range of interest in expertise areas, needs, and constituencies within the healthcare arena. Their backgrounds spanned robotics, imaging, mobility and sensing, decision support systems, electronic health records, privacy and security, genomics, data mining and analysis, social and behavioral science, and human-computer interaction.

These diverse research interests were apparent during the workshop’s plenary talks. William Straub, M.D., and Latanya Sweeney, Ph.D., led off the meeting. Straub, the Chief Strategy and Information Officer as well as a Professor of Medicine at Vanderbilt University, summarized the results and recommendations of a National Research Council report on "Computational Technology for Effective Healthcare: Immediate Steps and Strategic Directions" that he coeditied earlier this year. Straub illustrated key research challenges, including patients' access to actionable support, modeling, automation, data sharing and collaboration, data management at scale, and automated capture of patient-doctor interactions. Sweeney, Distinguished Career Professor of Computer Science, Technology, and Policy at Carnegie Mellon University’s School of Computer Science, and a member of the Federal Health Information Policy Committee, described research problems for computer science and information technology in the context of a national health information infrastructure. In particular, she articulated steps to data consolidation, analytics, and privacy/confidentiality.

William Rouze, Ph.D., Professor of Industrial & Systems Engineering at Georgia Tech, and Dietrich Stephan, Ph.D., the co-founder and Chief Scientific Officer at the personalized genomics company Navigenics, addressed the workshop at the start of the second session. Rouze called healthcare a "complex adaptive system" and charted a systems-based approach focused on information management and the creation of incentives and challenges that would motivate stakeholders to provide quality, affordable care. Stephan placed his work on Navigenics, "the first fully integrated entity to make "person-alized medicine" a reality," in the context of a future in which the latest knowledge is applied to prevent, delay onset, or cure disease. He described embedding one's genome into the electronic medical record, with role-based access to the genomic data.

On the second morning of the workshop, Richard Bucholz, M.D., Professor and Director of Neurosurgery at the University of California, San Francisco, and Craig Feidt, M.D., Chief Strategy Officer for Microsoft Research’s Health Solutions Group, provided "out-of-the-box" ideas to stimulate participants' creativity. Bucholz presented his view of the healthcare delivery system in which interoperable devices would be ubiquitous, inexpensive, and efficiently linked by networks of interest to store, display, and exchange information through Web-based communication standards and protocols, facilitating improved process flows for patients, providers, and caregivers. Feidt illustrated the "five forces" that would alter the healthcare landscape: truly definitive tests; systems biology approaches to unraveling the complexity of biologic interactions; improved imaging techniques; evidence-based medicine; and true data liquidity.

Later in the day, Eric Horvitz, M.D./Ph.D., a Principal Researcher at Microsoft Research and a co-founder of Microsoft’s Healthcare Solutions group, gave a short presentation to lead off the final session. Horvitz demonstrated the promise of predictive modeling, including learning models from the large amounts of data being generated, to inform decision-making in healthcare. He described a new advisory tool that helps inform clinicians’ decisions on whether to discharge a patient from the emergency room on the basis of the probability of that patient “bouncing back,” i.e., being readmitted to the hospital with a new diagnosis within a certain time window (days or weeks) in the future. While the workshop covered a wide variety of topics, several themes ultimately emerged:

- Both technical and non-technical factors are causing healthcare to undergo major changes. Many aspects of healthcare are shifting to the home, and family members are taking on an increasing role as caregivers. Individuals are taking on a greater role in managing their own health. Professional caregivers are offered the promise of increased benefit from IT, but the reality of inefficiencies and burdens that would make their jobs more difficult.
- The business of healthcare delivery is becoming increasingly complex.
- The emerging technologies that can be used to improve healthcare and healthcare are rich and diverse. Massive amounts of data about individuals, about the biology of disease and wellness, and about treatments and outcomes are becoming available in electronic form. Increasingly powerful techniques for data analysis are emerging. Sophisticated imaging techniques, sensing and monitoring technologies, and communications infrastructures are providing access to specialized information in real-time. Robotic and speech technologies are enhancing human capabilities. Understanding of human behavior, awareness, incentives, and cognition is advancing.
- Both integration and specialization will play important roles. Healthcare information, be it about an individual, a disease, or a therapy, and be it longitudinal or immediate, needs to combine data from multiple sources, multiple scales, and multiple representations. It must have high integrity, it must be comprehensive, it must be integrated over time, and it must be robust in the face of uncertainty and incompleteness. Access to that information must be contextual and user-driven. It must be easy to read and quickly understood. It must protect privacy, while not hiding what is needed for the situation. The evolution of healthcare and the advances in information technology, broadly construed, create the need and also the opportunity for both long-term and short-term research. During the final session, the participants discussed some of the factors (apart from the obvious need for funding) that would facilitate research progress. The needs include the availability of publicly available de-identified data sets, open research infrastructures, for instance, for comprehensive simulations, mechanisms for the migration of results to deployment, lowering of legal barriers to research, and appropriate foetus to report the results of this multi-disciplinary research. A major challenge is to circumvent the cultural differences in research styles and research evaluation and to enable federal agencies with health-focused interests to strengthen their ability to support meaningful collaboration and to lower the barriers for researchers to work together.

Susan Graham, Ph.D, graham@cs.berkeley.edu is Anita Borg Computing Research News - February 15, 2010

CRA-W Anita Borg Early Career Award

Nomination Deadline: February 15, 2010

Details: http://www.cra-w.org/borg
Connecting Teachers from Page 1

Summer 2010

Paid Summer Research Internships for Underrepresented Students
Via CRA-W/CDCC DREU

Application Deadline: February 15, 2010
Details: parasol.tamu.edu/dreu/

Expanding the Pipeline from Page 2

Don’t limit yourselves to computing classes. Computational thinking is everywhere; it’s in K-8 as well as high school. Science teachers often want help in introducing technology into their classrooms. Help them arrange activities using that technology, but choose activities that build computational thinking skills. Don’t limit yourself to classrooms either. Lots of what gets taught gets taught outside of school. Consider working with providers of informal education as well.

if you are a faculty member, encourage your students to get involved. K-12 service learning experiences teach valuable skills to the college students who participate as well as the students they serve.

This can be as simple as having the college students field questions during a lab time. If you work for a company, get your company to encourage and support the participation of its employees.

Don’t consider this to be a one-shot volunteer effort. Consider it to be the beginning of an ongoing relationship between you and your local teacher, school, or organization. As you become more aware of the constraints of the school environment and the teachers become more confident of you as a resource, your partnership will grow and have an increasing impact.

Start now by registering at the National Lab Day website (www.nationallabday.org).

Jan Cuny (mail@jc at gmail dot com) is Program Director of the National Science Foundation’s Broadening Participation in Computing program.

Dr. Joann J. Orthell is a Consulting Engineer of the Technical Staff at Argonne Labs Research.

DREU: Distributed Research Experiences for Undergraduates
(formerly the DMP, Distributed Mentor Project)

Application Deadline: February 15, 2010
Details: http://www.cra.org/Activities/craw/dmp/index.php

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there was some significant concern in the science community about the levels included for DARPA in both the House and Senate versions of the bill, but particularly for the Senate levels. Both the House and Senate included significant cuts to the President’s request for DARPA—the House trimmed $200 million from the request, the Senate about $500 million. In the Senate’s case, appropriations staff indicated they did not feel that the agency, given its recent history of underspending its appropriation—a behavior linked to the agency’s previous leadership—warranted an increase in FY 2010, and instead used that money to fund warrant an increase in FY 2010, to the agency’s previous leadership—its appropriation—a behavior linked to the agency’s previous leadership—warranted an increase in FY 2010, and instead used that money to fund increases elsewhere in their bill. CRA, along with many other groups in the science advocacy community, commented strongly to this reduction. Under new leadership, the agency appears to be making a serious effort to reverse many of the policies that generated the concerns that the university community and Congress shared, and has proposed a number of new efforts designed to re-engage DARPA with university researchers, we argued. We did not want to see this new approach derailed or hampered by the proposed reduction, and we joined with other members of the community to weigh in with Congress in an attempt to mitigate the reduction. That effort proved only partially successful, as the final bill funds DARPA at a $346 million reduction from the requested level for FY 2010.

Overall, defense basic research (6.1 research, in DOD parlance), will increase $1.8 billion in FY 2010, an increase of 10.1 percent over FY 2009. The final resolution of the FY 2010 appropriations process was delayed considerably as debate in both the House and Senate over comprehensive health care reform legislation consumed nearly all the available legislative “bandwidth” throughout the fall. This same bandwidth constraint also affected the movement of a number of other research-related pieces of legislation. In May, the House passed the Networking and Information Technology Research and Development Act (H.R. 2020), a bill designed to reauthorize much of the existing federal Networking and IT R&D program, and enact some of the recommendations of the President’s Council of Advisors for Science and Technology, stemming from their review of the NITRD program. However, the bill has yet to be considered in the Senate, primarily because of time constraints. In November, the House Science and Technology Committee passed the Cybersecurity Enhancement Act of 2009 (H.R. 4063), which reauthorizes much of the federal cyber security research program. However, that bill has yet to make it to the floor of the House for a vote and faces a very uncertain future in the Senate.

CRA is pleased to welcome five new members to its Board of Directors. Sebastian Thrun, Professor of Computer Science & Electrical Engineering and Director of the Stanford AI Lab, was appointed to complete the term of Peter Lee who resigned from the board when he assumed a position at DARPA. Robert Schreiber, Assistant Director of the Exascale Computing Lab at Lawrence Livermore National Lab, has been appointed SIAM’s representative. Carla Brodley, Professor of Computer Science at Tufts University and cochair of CRA-Women, was appointed AAAI’s representative in July. Alva Coush, Associate Professor of Computer Science at Tufts University, became the USENIX representative in July. Effective January 1, 2010, Jane Prey, Senior Research Program Manager at Microsoft Research, became one of two IEEE-CS representatives on the board.

CRA appreciates the contributions of members who have completed their service on the Board. Marie desJardins, University of Maryland, has represented AAAI since 2006. Peter Hennes, University of Michigan, completed his term (2008-09) as the USENIX representative. Long-term SIAM representative Bobby Schaab (Indiana University), who joined the board in 1999, continues to be a valuable member of the Government Affairs and Snowbird 2010 committees. George Cybenko (Dartmouth College) who has represented IEEE-CS since 2005, is currently a member of CRA’s Government Affairs and Distinguished Service Awards committees.

Among Computer Society members recently elevated to Fellow by IEEE were CCC Council members David Kaeli (Northeastern University) and Robin Murph (Texas A&M University). Also honored was CRA Board member Margaret Martonosi of Princeton University. Our congratulations to these honorees and all other members of the CS community who were honored by IEEE (see: http://www.ieee.org/web/membership/fellows/Societies/COM/HPBid.html).

Stephen Sedman, Dean of the College of Science at Texas State University, has been named President of the Computing Sciences Accreditation Board (CSAB) for 2009-11.

Francine Berman, Vice President for Research at Rensselaer Polytechnic Institute, received the inaugural Ken Kenzo Award from the IEEE Computer Society and the Association for Computing Machinery at the SC09 Conference in November. Dr. Berman received the award for her leadership in building national-scale cyberinfrastructure.

CRA-W Grad Cohort for Women Conference

April 23-24, 2010
Bellevue, WA

Application Deadline: February 1, 2010

http://www.cra.org/gradcohort
Bowdoin College

Computer Science Department

Tenure-Track Position

The Computer Science Department at Bowdoin College invites applications for a tenure-track position with the rank of Assistant Professor to begin in Fall 2010. A Ph.D. in computer science is required (advanced ABD will be considered). Preference will be given to candidates whose research interests include software – especially systems – and complement the Department’s current research areas of theory, algorithms, and artificial intelligence.

The successful candidate will be expected to share all of the members of the department in the teams of introductory and intermediate courses, and to teach upper-level courses in their area of research. The regular teaching load is two courses per semester. Research Department members are strongly committed to providing research opportunities for undergraduate students and the successful candidate will be expected to guide independent projects and to actively encourage student involvement in their research.

The Computer Science Department shares a diverse building with the Mathematics and Physics Departments. Departmental lab facilities include an Mac lab for introductory courses, a lab with high-end Mac Pro machines for intermediate and advanced courses, and a robotics lab featuring 16 Sony Aibos, an iMac lab for introductory courses, a lab with Linux-based. More information about the computing environment may be obtained at: http://www.bowdoin.edu.

Bowdoin is now accepting electronic submissions of applications and supporting materials. Bowdoin.doc can be submitted as a cover letter, a curriculum vitae, a statement of teaching philosophy, and at least three references who will provide letters of recommendation. Review of applications will begin December 15, 2009 and will continue until the position is filled.

Founded in 1794, Bowdoin is one of the oldest and finest coeducational, residential liberal arts college in the country. Bowdoin’s reputation rests on the excellence of its faculty and students, its intimate size, strong sense of community, genuine socioeconomic diversity, and measured links with the people, history, and natural beauty of Maine. Bowdoin’s diverse student body comprises 29% students of color, 3% International students and approximately 15% students from other countries. With some 185 FTE faculty, Bowdoin has a 9:1 student-faculty ratio, and 69% of all classes are taught by faculty, with 20 students. This academic year Bowdoin enrolled slightly over 1,700 students from 49 states and 26 foreign countries. Bowdoin is located in Brunswick, a vibrant community on the Maine coast two hours from Boston.

Bowdoin College is committed to equality and diversity and is an equal opportunity employer. We encourage inquiries from candidates who will enrich and contribute to the cultural, socioeconomic, and ethnic diversity of our college. Bowdoin College does not discriminate on the basis of age, race, creed, color, religion, marital status, gender, sexual orientation, veteran status, national origin, or disability status in employment, or in our education programs.

Bowdoin College recognizes that recruiting and retaining faculty may involve considerations of spouses and domestic partners. To that end, where possible, the College will attempt to accommodate and respond creatively to the needs of spouses and partners of members of the faculty.

Bucknell University

Department of Computer Science

Assistant Professor

Applications are invited for a tenure-track assistant professor position in computer science beginning mid-August 2010. Outstanding candidates in all areas will be considered. We are particularly interested in candidates whose research area is in AI, data mining, bioinformatics, or databases. Candidates must have completed Ph.D. requirements in computer science or a closely related field before the beginning of employment at Bucknell. A strong commitment to excellence in teaching and scholarship is required. The successful candidate must be able to participate in the teaching of required core courses and be able to develop elective courses in the candidate’s area of expertise.

Bucknell is a highly selective private university emphasizing undergraduate education in engineering and in liberal arts and sciences. The B.S. programs in computer science are ABET accredited. The computing environment is Linux-based. More information about the department can be found at: http://www.bucknell.edu/computer_science/

Applications will be considered as received and recruiting will continue until the position is filled. Candidates are asked to submit a cover letter, CV, graduate transcripts, a statement of research and/or interests, and the contact information for three references. Please submit your application to: http://jobs.bucknell.edu/ and search for the “Computer Science Faculty Position.”

Please direct any questions to Professor Xiaoxing Meng of the Computer Science Department at smeng@bucknell.edu. Bucknell University values a diverse college community and is committed to excellence through diversity in its faculty and student body. An Equal Opportunity/Affirmative Action Employer, Bucknell University especially welcomes applications from women and minority candidates.
Successful candidates can look forward to internationally competitive remuneration, and assistance for relocation to Singapore.

To apply for the above mentioned positions, applicants should visit our job portal at: www.su.edu.sg, where you can also find more comprehensive information about the University and types of programmes we offer.

Enquiries can also be addressed to Tommy Lee at tommylee@su.edu.sg

FOUNDING HEAD OF PILLAR FOR ARCHITECTURE, INFORMATION SYSTEMS, ENGINEERING AND PRODUCT

Singapore University of Technology and Design (SU) is looking for foundation pillars to build our departments on.

As a Founding Head of the Pillar, our search criterion is nothing short of the best and most reputable in the field. Shortlisted candidates must minimally have an excellent doctoral qualification and be an international award recipient for academic and research contributions to the relevant specialised field, with publications in renowned and reputable journals recognised by the international research community.

The final selection for the Founding Head of Pillar will be based on:

• Your current senior academic position in a renowned prestigious University
• Your successful history in attracting funding for research
• Your proven track record in managing research projects
• Your ability to leverage diverse teams and effectively manage people and resources
• Your passion to share SU’s vision on the ‘Big D’ approach, focusing on the art and science of ‘design’ within your field of specialisation
• Your appetite for entrepreneurship and risk taking
• Your ability to innovate and create an environment that promotes creativity and experimentation
• Your ability to inspire and motivate young minds to become leaders and inventors of tomorrow

Please send your resume detailing the above mentioned criteria to Ms Jaclyn Lee, Director of Human Resources, at jaclynlee@su.edu.sg

For more information about us, please visit www.su.edu.sg
The position will close no sooner than February 9, 2010, and will remain open until one of Colorado University is an Equal Opportunity/Affirmative Action employer.

Cornell University
Department of Computer Science
Faculty Positions

Multiple faculty positions are available at Cornell's Department of Computer Science. Candidates are invited to apply at all levels including tenured, tenured-track, or lecturer. We are interested in applications from any area of computer science, including artificial intelligence, computational biology, databases, game design, graphics, machine learning, networking, programming languages, robotics, security, scientific computing, systems, and theory of computation.

To ensure full consideration, applications should be received by December 15, 2009, but will be accepted until all positions are filled.

Applicants should submit a curriculum vitae, brief statements of research and teaching interests through the web at:
http://www.cs.cornell.edu/apply

and arrange for three or more recommendation letters to be uploaded on the Web.

Cornell University is an Affirmative Action/Equal Opportunity Employer and Educator.

D. E. Shaw & Co., L.P.
New York, NY & Cupertino, CA

Software Developer (full-time & internship)

The D. E. Shaw group is looking for top-notch, innovative software developers to help in expand its tech venture and proprietary trading activities. We’re a global investment and technology development firm with approximately US $20 billion in aggregate investment capital and a decidedly different approach to doing business. The application of advanced technology is an integral part of virtually everything we do, from developing computationally intensive strategies for trading in securities markets around the globe to designing a supercomputer intended to fundamentally transform the process of drug discovery. Developers at the firm work on a variety of interesting technical projects including realtime data analysis, distributed system development, and the creation of tools for mathematical modeling. They also enjoy access to some of the most advanced computing resources in the world. If you’re interested in applying your intellect to challenging problems of software architecture and engineering in a stimulating, fast-paced environment, then we’d love to see your resume.

You can learn more about us and apply online at:
http://www.deshaw.com/recruit/jobs/Ad/CT/Prog

Internships:

Please send your curriculum vitae (including list of publications, thesis title, and advisor, if applicable) to crac-z@deshaw.com.

D. E. Shaw Research

Research on Algorithms and Architectures for Computational Biochemistry

Extraordinarily gifted early career scientists and engineers sought to join a rapidly growing New York-based research group pursuing an ambitious, long-term project aimed at achieving major scientific advances in the field of biochemistry and fundamentally transforming the process of drug discovery.

Among the group’s current research activities is a project aimed at developing a massively parallel special-purpose supercomputer and innovative mathematical and computational techniques to direct unprecedented computational power toward the solution of key scientific and technical problems in the fields of molecular simulation and molecular design. Successful candidates will be working closely with a number of the world’s leading computational chemists and biologists, will have the opportunity to make fundamental contributions within the fields of biology, chemistry, and mathematics.

Serious candidates will have an exceptionally distinguished history of academic and/or industry accomplishment in computer science, electrical engineering, applied mathematics, or a related area.

 Particularly relevant areas of expertise might include parallel computation, high-speed interconnection networks, scientific computing, numerical analysis, optimization, the analysis of algorithms, operating systems, and formal languages and computation.

Advanced degrees are required. Experience in computational biology, computer architecture, computer vision, database systems, distributed systems, machine learning, networking, security, and theory.

Research activities are aimed at the discovery and development of innovative scientific techniques to direct unprecedented computational power toward the solution of key scientific and technical problems in the fields of biomolecular simulation and design. This research effort is being financed by the D. E. Shaw group, a global investment and technology development firm with more than US $35 billion in aggregate investment capital. The project was initiated by the firm’s founder, David E. Shaw, and operates under his direct scientific leadership.

We will offer above-market compensation to candidates of truly exceptional ability. Interested applicants should apply online at: D. E. Shaw Research

ECE

Duke University
Department of Computer Science
 tenure-Track Faculty Positions

The Department of Computer Science at Duke University invites applications and nominations for a tenure-track faculty position at an assistant professor level, to begin August 2010. We are interested in candidates with active research programs in any area of computer science, both core and interdisciplinary areas, including algorithmics, artificial intelligence and computational biology, computer architecture, computer vision, database systems, distributed systems, machine learning, networking, security, and theory.

The department is committed to increasing the diversity of its faculty and we strongly encourage applications from women and minority candidates.

A successful candidate must have a solid disciplinary foundation and demonstrate promise of outstanding scholarship in every respect, including research and teaching. Please refer to:

Applications should be submitted online at:
www.cs.duke.edu/research

A Ph.D. in computer science or related area is required. To guarantee full consideration, applications and letters of reference should be received by January 1, 2010.

Durham, Chapel Hill, and the Research Triangle of North Carolina are vibrant, diverse, and thriving communities, frequently ranked among the best places in the country to live and work. Duke and the many universities in the area offer a wealth of education and employment opportunities for spouses and families.

Duke University is an affirmative action, equal opportunity employer.

ETH Zürich

Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

Assistant Professorships (Tenure Track) in Computer Science

The Department of Computer Science (www.inf.ethz.ch) at ETH Zürich invites applications for assistant professorships (Tenure Track) in the areas of:

- Software Engineering
- Computer Graphics
- Computational Intelligence
- Human Computer Interaction

Applicants should have internationally recognized expertise in their field and pursue research at the forefront of Computer Science. The successful candidate should establish and lead a strong research program. He or she will be expected to supervise Ph.D. students and teach both undergraduate level courses (in German or English) and graduate level courses (in English). The Department offers a stimulating and well-supported research and teaching environment. Collaboration in research and teaching is expected both within the Department and with other groups of the ETH domain and related institutions.

Assistant professorships have been established to promote the careers of younger scientists. The initial appointment is for four years with the possibility of renewal for an additional two-year period and promotion to a permanent position.

Please submit your curriculum vitae, a list of publications, names of at least three senior referees, and statements on future research and teaching activities to the President of ETH Zürich, Prof. Ralph Eichler, ETH Zürich, Raemistrasse 101, 8092 Zurich, Switzerland, (or e-mail to faculty-recruiting@inf.ethz.ch) no later than March 15, 2010. With a view toward increasing the number of female professors, ETH Zürich specifically encourages qualified female candidates to apply.

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knowledge and skills that enable students to make the most of IT as a powerful tool for information and understanding, to meet challenges in their respective subject area, and with a special emphasis on methods, concepts and principles which extend beyond traditional types.

In this regard, the Department of Computer Science is seeking someone with a sound education in IT, including a doctorate, on the one hand, and who can demonstrate a high level of expertise in at least one scientific area of application such as biology or environmental sciences on the other. Particular interest in teaching at university level, as well as willingness to take on an above-average teaching load are indispensable requirements for this post. A very good knowledge of the German language is essential.

Interested candidates are requested to submit their curriculum vitae (in pdf format), including a CV and list of publications, online via www.jobs.ethz.ch. Documents should reach the Head of the Department no later than February 15th, 2010. ETH Zurich, Professor Jürg Gutknecht, Department of Computer Science, Clausiusstrasse 59, 8092 Zurich, Switzerland.

For further information, please contact Professor Jürg Gutknecht by email at gutknecht@inf.ethz.ch (do not enclose any

Florida International University (FIU)

School of Computing and Information Sciences

Director Position

Position number 49781: Florida International University (FIU) invites applications for the position of Director of the School of Computing and Information Sciences (SCI, www.fiu.edu) in the College of Engineering and Computing to begin on July 1, 2010.

Candidates must have a Ph.D. in Computer Science or a closely related field, a strong publication record, and administrative and research excellence necessary for appointment as a tenured professor, demonstrate leadership skills, management or supervisory experience, and a strong interest in working with students and the community.

Reporting to the Dean of the College of Engineering and Computing, the Director is responsible for promoting excellence in interdisciplinary research and teaching, mentoring faculty, building research centers, administration of School’s budgetary and personnel operations, and collaborating with the community.

With a student enrollment of over 39,000, FIU has achieved Carnegie University Research status (with high research activity) and is one of the 25 largest universities in the nation. SCI is the 6th largest computer science program in the nation and is a major school in the College of Engineering and Computing at FIU. SCI has 32 faculty members (architecture, design, verification, testing, component technology, and verification), machine learning, telecommunications and networking, software engineering, health informatics, Bioinformatics, algorithms and programming languages.

Our current AACSB/ABET-ignouss/Industry partnership projects are the Latin American Grid (LAG Grid), pronounced “lah grid” (http://www.latamac.com). Co-founded by IBM, and with 12 academic and industry partners sharing over 1,500 systems in an experimental grid, LAG Grid brings together computer scientists, domain experts, and industry experts to produce the next generation of leaders of the IT industry by synergistically combining research, education and workforce development activities. It explores “society critical” areas such as disaster mitigation, healthcare, and bioinformatics.

FIU offers a competitive salary and benefits package, and an excellent work environment.

Application review continues until the position is filled. A letter of application, CV, statements of administrative, teaching, and research, and a list of three references should be submitted to: http://www.fiujobs.org.

Applications are especially encouraged from members of under-represented minorities, women, and non-US citizens. Fluency in English is required. Required English Language Proficiency of TOEFL 600 scores are also encouraged.

FX Palo Alto Laboratory, Inc.

Research Scientist

FX Palo Alto Laboratory, Inc. (FXPAL) provides multimedia and collaboration technology research for Fuji Xerox Co., Ltd., a joint venture between Xerox Corporation of America and Fujifilm of Japan. We have an immediate opening for a Research Scientist eager to embrace new challenges in cloud computing. The successful candidate in this position in security must currently have well-established and well-funded research programs, must be a recognized scholar in the research community, and must be prepared to take on a leading research role within the department and in the field. (IB and CB) ABD candidates may apply for the Associate Professor rank, but they must complete their Ph.D by August 15, 2010. Applicants for the Assistant Professor rank must demonstrate a potential leadership position in research and for attracting significant research funding. Applicants for the Associate Professor rank must have well-established and well-funded research programs. All applicants must have demonstrated teaching excellence or potential at both undergraduate and graduate levels.

The George Washington University

Department of Computer Science

Three Faculty Positions

The Department of Computer Science at The George Washington University is seeking applicants for the following faculty positions. The first is a (A) tenured senior position in security, at the rank of Associate or Full Professor. The second position is (B) a tenured track position in the area systems security, and the third is (C) a tenure-track position in Artificial Intelligence with a focus on Robotics. Position B and C will be at the rank of Assistant or Associate Professor. The rank for all positions will depend on experience. Successful candidates may start at any point during 2010.

Basic Qualifications: All applicants must have a Ph.D degree in Computer Science or a closely related field. (A) Applicants for the tenured senior position in security must currently have well-established and well-funded research programs, must be a recognized scholar in the research community, and must be prepared to take on a leading research role within the department and in the field. (IB and CB) ABD candidates may apply for the Associate Professor rank, but they must complete their Ph.D by August 15, 2010. Applicants for the Assistant Professor rank must demonstrate a potential leadership position in research and for attracting significant research funding. Applicants for the Associate Professor rank must have well-established and well-funded research programs. All applicants must have demonstrated teaching excellence or potential at both undergraduate and graduate levels.

The George Washington University is the largest academic institution in the nation’s capital with close access to many Federal funding agencies and research laboratories. The University offers comprehensive programs of undergraduate and graduate liberal arts studies as well as degrees in engineering, law, medicine, public health, education, business, and the fine arts. A private institution, GW pride itself on excellent research, quality education, and low student/teacher ratios. The exceptional location affords the GW community unique cultural and intellectual opportunities. In the highest ranking, the Washington Metropolitan area is one of the largest IT areas in the nation, putting us in the center of activities such as security and biotechnology.
Professional opportunities

Michigan Technological University is an equal opportunity educational institution/equal opportunity employer.

Department of Computer Science

Applications are invited for one or more tenure-track faculty positions beginning August 2010. Candidates are expected to have a Ph.D. in computer science or a closely related field and to demonstrate potential for excellence in teaching and research. Applications with interest in the following research areas are of particular interest: database management, high performance computing, biocomputing, parallel and distributed computing, human computer interaction, computer security, networking, and visualization. In addition, the Department has a central role in the Interdisciplinary Computational Science and Engineering Ph.D. Program which fosters research and teaching in the application of computer science to engineering and scientific problems.

In January 2005 the Department moved into the new budding Computer Science Hall which includes space for graduate student and faculty offices, research and instructional labs, and classrooms. The facility houses the Computational Science and Engineering Research Institute, providing access to high performance computing platforms. Internet access is available.

Michigan Tech is a research university with approximately 7,000 students and 400 faculty with educational and research programs in computing, engineering, physical and social sciences, forestry, humanities, and business.

Michigan Tech is located in Michigan’s upper Peninsula and is surrounded by Lake Superior and nearby Marquette and Houghton. The community offers year-round recreational opportunities and programs supported by a competitive compensation package and a low cost of living in an excellent quality of life.

Review of applications will continue until the position is filled. Women and minorities are particularly encouraged to apply. Applications should include a letter of interest, curriculum vitae, statement of research interest, and the names and contact information of three references.

Michigan Tech is an ADVANCE institution, one of a limited number of universities in receipt of NSF funds in support of its inclusive excellence in its employment practices. Michigan Tech complies with all applicable laws and Executive Order 11246, prohibits discrimination in employment on the basis of race, color, gender, national origin, creed, age, disability, veteran status, marital status, sexual orientation, and gender identity and expression.

For more information see our web page http://www.cs.mtu.edu/.

In addition to the Department of Computer Science, Michigan Tech offers a unique university-wide minor in Digital Arts. The Department of Information Science offers a B.S. and M.S. in Information Science.

Send applications and all correspondence to:

Dr. Mark M. Windon
Chair
Department of Computer Science
Michigan Technological University
Houghton, Michigan 49931
Phone: (906) 487-2209
E-mail: windon@mtu.edu

For information on our web page http://www.cs.mtu.edu/

In addition to the Department of Computer Science, Michigan Tech offers a unique university-wide minor in Digital Arts. The Department of Information Science offers a Bachelor’s and Master’s degree. The School of Computer Science and Engineering offers a joint M.S. program in Computer Science and Engineering, as well as a Ph.D. program in Electrical Engineering and Computer Science.

Applications are invited for tenure-track faculty positions beginning August 2010. Candidates are expected to have a Ph.D. in computer science or a closely related field and to demonstrate potential for excellence in teaching and research. Applications with interest in any computing area are of particular interest, but those with research interests in the following are especially encouraged to apply:

- Web-based and ubiquitous computing
- Cyberinfrastructure
- High-performance computing systems
- Security
- Machine learning
- Bioinformatics
- Statistical methods
- Data mining
- Network analysis
- Human-computer interaction
- Visualization
- Sustainability
- Social computing
- Digital arts

In addition, Michigan Tech is part of the Next Generation Supercomputing Alliance (NGSA) and the Detroit Supercomputing Center (DSC), and has access to computational resources through these organizations.

Successful candidates will be expected to develop an active research program that is consistent with their research interests and to develop and maintain a strong research and publication agenda.

Applications will begin on December 2, 2009, and will continue through March 1, 2010. Applications must be received by March 1, 2010. Review of applications will begin immediately and continue until the position is filled. Women and minorities are particularly encouraged to apply. Applications should include a letter of interest, a current CV, and a statement of research interests (including a description of current research and planned research funding) and will be considered. Only complete applications will be considered. For more information, please see our web page http://www.cs.mtu.edu/.

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largest Hispanic serving four-year college in the northeastern US. For more information about this position including responsibilities, salary and applying please visit our website: www.pacacu.edu/ojh


Johns Hopkins University Biomedical Engineering and Computer Science

Postdoctoral Researcher, Data Mining and Data Management Bioinformatics

Candidates are sought for multiple fellowship opportunities. As the Associate international repository for protein chip data (NSF DataNet Conservancy), to develop innovative ideas for NIH Roadmap (NIH Roadmap for Networks and Pathways), and to design and synthesize artificial biotechnology. Technically excellence and database experience override previous work in computational biology. Email CVs with names of at least 3 references to joel.brunder@jh.edu.

The Johns Hopkins University Department of Computer Science Tenure-Track Faculty

The Department of Computer Science at The Johns Hopkins University is seeking candidates for several tenured or tenure-track faculty positions at the Assistant Professor level, as well as applications for a search committee at the Associate or Full Professor level. At the Assistant Professor level all areas will be considered, but candidates with research agendas in computational genomics, computer systems, and healthinformatics applications will receive special attention. At the Associate or Full Professor level we are seeking outstanding applicants in the security area. All applicants should have a Ph.D. in computer science or a related field and are expected to show evidence of an ability to establish a strong, independent, multidisciplinary, internationally recognized research program.

Commitment to quality teaching at the undergraduate and graduate levels will be required of all candidates considered. The department has a strong undergraduate and graduate program, and is home to over 20,000 students as well as 700 academic staff from across the globe.

Candidates should apply using the online application which can be accessed from http://www.cs.jhu.edu/apply (for full consideration, by January 4 2010). Questions should be directed to joel.brunder@jh.edu.

Knox College Department of Computer Science

Assistant Professor of Computer Science

The Department of Computer Science at Knox College invites applications for an Assistant Professor of Computer Science. This tenured position will begin September 1, 2010. Successful applicants will be appointed as an Assistant Professor of Computer Science. Applicants must have a Ph.D. The candidate is expected to have a well-developed research agenda. A commitment to excellence in teaching and research in a liberal arts institution. While all areas of specialization will be considered, the following areas will be particularly complementary to the current faculty: database management systems, modeling and simulation, human-computer interaction, and artificial intelligence. A Ph.D in Computer Science is preferred, although candidates that have a Ph.D will be considered.

The Department offers a major and a minor in Computer Science.

Departmental computing facilities include student laboratories, a student independent research laboratory, a quad-processor Intel Xeon server running Red Hat Linux, a departmental Macintosh lab, a visualization software that permits running Windows or Linux, a 192 core parallel processing graphics system, and access to the College’s other Windows and Macintosh laboratories.

The campus is completely wireless. Knox is a beta site for select independent liberal arts college students with friends and family

Knox is a beta site for select independent liberal arts college students with friends and family. The college is consistently ranked as one of the "Best Values" among national liberal arts colleges in the U.S. News & World Report survey of quality and price in higher education. Small classes, a strong advising system, and an emphasis on independent research foster close student-faculty interaction. Please visit us at www.knox.edu for more information about the College, and to ask us what else we can do for you on the department and our facilities.

To apply, please send us a curriculum vitae, a letter detailing your research interests and teaching philosophy, and copies of current letters of recommendation from three references, one of which must address your teaching. Electronic submissions are preferred. Send your application to John F. Dodge, Chair Department of Computer Science Knox College, Box K-118 2 East South Street Galesburg, IL 61401-4999 (email: jf-doc@knox.edu) Review of applications will begin as soon as they are complete and will continue until the position is filled.

Knox College is an affirmative action, equal opportunity employer. In keeping with its IT-year commitment to equal rights, the College does not discriminate against applicants or employees on the basis of race, color, national origin, ancestry, age, sex, marital status, religion, creed, physical or mental disability, sexual orientation, gender expression or identity, pregnancy, or military status.

Lake Forest College, Lake Forest, IL Assistant Professor

The Department of Mathematics and Computer Science invites applications for a two-year position at the assistant professor level, beginning Fall 2010. The position requires a Ph.D. in computer science or evidence that all

Ph.D. requirements will be completed by Fall 2010. Successful applicants will be able to offer a variety of courses across our curriculum—introductory courses and upper-level electives. It is possible that this will be converted into a tenure-track position in the future.

The college particularly welcomes applications from women and members of historically underrepresented groups.

Applications should send letter of application, CV, and documentation of teaching experience to:

Prof. Craig Knuckles
Chair, Dept of Mathematics & Computer Science
Lake Forest College
555 S. Sheridan Road
Lake Forest, IL 60045

Applicants must also arrange to have three letters of recommendation sent separately. For full consideration, applications should be received by Jan 31, 2010.

Max Planck Institute for Software Systems (MPI-SWS)
Tenure-Track Openings

Tenure-track positions are invited for tenure- and tenured position candidates in all areas related to the design, analysis and engineering of software systems, including programming languages, formal methods, security, distributed, networked and embedded systems, databases and information systems, and human-computer interaction. A doctoral degree in computer science or related field and an outstanding research record are required. Successful candidates are expected to build and pursue a highly visible research agenda, both independently and in collaboration with other groups. Successful candidates have demonstrated leadership abilities and recognized international status.

MPI-SWS is a part of a network of eight Max Planck Institutes, Germany’s premier basic research facilities. MPIs have an established record of world-class, foundational research in the fields of medicine, biology, chemistry, physics, technology and humanities. Since 1949, MPI researchers have won 17 Nobel prizes. MPI-SWS aspires to meet the highest standards of excellence and international recognition with its research in software systems.

The institute offers a unique environment that combines the best aspects of a university department and a research laboratory:

FACULTY POSITIONS IN COMPUTER SCIENCE / COMPUTING SYSTEMS / INFORMATION SYSTEMS / SOFTWARE ENGINEERING / TECHNOLOGY.

Nanyang Technological University (NTU), Singapore is ranked globally as one of the best universities in the world. Under the University’s College of Engineering, the School of Electrical and Computer Engineering (SCE), established in 1989, offers undergraduate engineering (leading to a BEng (Honors) in Computer Engineering and Computer Science, as well as graduates engineering (leading to MEng, MSc and PhD. A research intensive institution, SCE is a strong R&D infrastructure and knowledgebase with industry and academy, the School offers its academic staff the opportunity to pioneer cutting-edge research in a wide spectrum of technological areas.

SCE comprises four divisions: Division of Computer Communications (DCC), Division of Computer Science (DCS), Division of Computing Systems (CPS) and Division of Information Systems (DIS), and is home to over 2,000 students as well as 100 academic staff from across the globe.

NTU’s reputation for excellence is recognized worldwide.

Candidates for appointment at an Associate Professor (Ast/P) or Assistant Professor (Ast/P) level must demonstrate strong research potential and a willingness and ability to build and lead a team of undergraduate and graduate students and post-docs. They have full academic freedom and publish their research results freely.

Faculty have the opportunity to supervise doctoral and masters students and to teach graduate students, and to have the flexibility to incorporate teaching into their research agenda.

Times for applications: From 15 March 2010

Closing Date: 15 March 2010

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Faculty positions are available at the University of Massachusetts Lowell in Computer Science, in a strong research and graduate education environment. The successful candidate will have a Ph.D. in Computer Science. The Computer Science Department at UMass Lowell invites applications for two faculty positions at the rank of Associate Professor to start in September 2010. These are tenure-track or tenured positions depending on qualifications, with an option at the rank of Full Professor to an Associate Professor position. The successful candidate will hold a Ph.D. in computer science or a closely related field, and must be U.S. citizens, permanent residents, or in the process of becoming permanent resident. Applications are encouraged from exceptionally accomplished in research and teaching, with a strong commitment to research excellence. They must include: curriculum vitae, a statement of current research, a summary of future research plans, and three letters of recommendation. Final review of applications will begin on December 20, 2009. Applications received by January 20, 2010 are assured of full consideration. Successful candidates will be expected to create new programs and contribute to the collaborative research programs of the existing departmental groups.

Umass Lowell is located 25 miles northwest of Boston in the high-tech corridor of Massachusetts. The Computer Science Department has 16 research faculty, an extensive M.S. program, a Ph.D. program, and is driven by funding from the NSF, DOE, DOD, and other agencies. The successful candidate’s research will be expected to produce high-impact innovations. For more information, we encourage interested parties to visit http://www.cs.uml.edu. Click on the Faculty Positions button near the bottom of the webpage.
University of Cincinnati
Software Engineering/Information Technology
Faculty Position

The Department of Computer Science and Engineering seeks applicants for a tenure-track appointment at the rank of Assistant Professor to start in January 2010. Applicants must have completed a Ph.D. in Software Engineering or Computer Science. Candidates must show exceptional promise in both research and teaching. Desired areas of interest include proper management, information systems analysis and design, software quality assurance, maintenance & evolution, CMML, as well as evidence of successful teaching in software engineering/IT courses. Candidates should submit a letter of intent, a statement of research and teaching interests, resume, and three references. Inquiries should be sent to:

Professor A. V. Ivanov
Chair, Computer Science and Engineering
University of Cincinnati
Cincinnati, OH 45221-0036

The Ohio State University
Software Engineering/Information Technology
Faculty Position

The Department of Computer Science and Engineering invites applications to fill a faculty position at any academic rank in the area of computer science with an emphasis in cyber security. The successful candidate will have excellent opportunities to initiate interdisciplinary research and educational collaborations with the diverse institutes and departments at OSU and within the state of Ohio. The Computer Science and Engineering Department (CSE) at The Ohio State University has a strong research and development program, a vibrant research program and strong course offerings, with ongoing strengths including security, networking, distributed systems, algorithms, and web search technology.

The Ohio State University is an equal opportunity/affirmative action employer. Women, minorities, and individuals with disabilities are encouraged to apply.

Department of Computer Science
and Engineering
The Pennsylvania State University
College of Information Sciences and Technology
Assistant Professor of IST

The College of Information Sciences and Technology at The Pennsylvania State University, http://www.ist.psu.edu, has openings for assistant professors. The college is seeking candidates with a PhD in computer science or a closely related field. Applicants should send a letter of interest and curriculum vitae to:

Dr. Jack E. Czarnecki
Chair, IST Faculty Positions Search Committee
The Pennsylvania State University
College of Information Sciences and Technology
University Park, PA 16802

Review of applications will begin in December 2009 and continue until the position is filled. Candidates should apply online at:

https://jobs.psu.edu/

All applicants must hold a PhD in computer science or a closely related field. Candidates should be committed to excellence in teaching and research. Salary and benefits are highly competitive. Applicants should address their letter of interest to:

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University Park, PA 16802

Polytechnic Institute of NYU (NYU-Poly)
Computer Science and Engineering Department
Faculty Positions

The Computer Science and Engineering Department at Polytechnic Institute of New York (NYU-Poly) invites applications for two faculty positions at the Assistant Professor level. The positions are open to all CSE areas (artificial intelligence, graphics and computer vision, software engineering and programming languages, systems, and theory) with priority consideration given to candidates in database systems, computer software engineering & programming languages.

Applications should be submitted by January 15, 2010 but will be accepted until the position is filled. Applicants should send a letter of interest, a current curriculum vitae, and three references to:

Chair, Faculty Search Committee
Polytechnic Institute of New York
360 Jay Street
Brooklyn, NY 11201

The Department of Computer Science at Purdue University invites applications for tenure-track faculty positions in areas of cyber security and software engineering. Results of the review will be available beginning August 1. The successful candidate will contribute to a vibrant research program and strong course offerings, with ongoing strengths including security, networking, distributed systems, algorithms, and web search technology.

Purdue University
Department of Computer Science
Faculty Positions in High-Performance Computing

The Department of Computer Science at Purdue University invites applications for tenure-track faculty positions in high-performance computing and computer security. Results of the review will be available beginning August 1. The successful candidate will contribute to a vibrant research program and strong course offerings, with ongoing strengths including security, networking, distributed systems, algorithms, and web search technology.

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the position applied for. Applications should consist of a cover letter, a CV, a statement of research and contact information for at least three references, and URLs for five to ten selected publications. Applications should be submitted to: https://engineering.sfu.ca/Dept/Computing/ReseaRCh/news

Computing Research news January 2010

Applications for W1 positions (phase I of the program) must have completed an outstanding Ph.D. Upon successful evaluation after two years, W1 group leaders are eligible for promotion to W2. Direct applications for W2 positions (phase II of the program) must have completed a position stay and must have demonstrated outstanding research potential and the ability to successfully lead their own research group. Junior research groups are equipped with a budget of $50,000 funds per year to cover research personnel and other costs. Saarland University has leading departments in computer science and computational linguistics, with more than 250 PhD students working on topics related to the cluster (see http://informatics.saarland.de for additional information). The German Excellence Initiative recently awarded multimillion grants to the Cluster of Excellence "Multimodal Computing and Interaction" as well as to the "Saarbrucken Graduate School of Computer Science". An important factor to this success were the two Max Planck Institutes for Informatics, the German Research Center for Artificial Intelligence (DFKI), and the Max Planck Institute for Software Systems which are co-located on the same campus.

Candidates should submit their application (curriculum vitae, photograph, list of publications, short research plan, copies of degree certificates, copies of the most important publications, list of five referees) to the coordinator of the cluster, Prof. Hans-Peter Seidel, MPI for Computer Science, Campus E1 4, 66123 Saarbrücken, Germany. Please, also send your application as a single PDF file to application@mpi-saarl.de. The review of applications will begin on January 15, 2010, and applications are strongly encouraged to submit applications by that date; however, applications will continue to be accepted until January 31, 2010. Final decisions will be made following a candidate symposium that will be held during March 8-12, 2010.

Saarland University is an equal opportunity employer. In accordance with its policy of increasing the proportion of women in type of employment, the University actively encourages applications from women. For candidates with equal qualification, preference will be given to people with physical disabilities.

SIMON FRASER UNIVERSITY
School of Computing Science
Assistant Professor

The School of Computing Science at Simon Fraser University invites applications for a tenure-track position as Assistant Professor level for its Software Systems program at the Surrey campus in the Metro Vancouver area. A Ph.D. in Computing Science or related area is required, with a strong commitment to excellence in research and teaching. Applicants with a strong background in systems or software engineering are invited. Candidates with expertise in embedded software systems are particularly welcome.

Simon Fraser University is one of the top three high-tech industrial centers in the region, which facilitates the concentration of telecommunication corporations in the US, providing abundant opportunities for industrial research cooperation and consulting.

Simon Fraser University is a multicultural and high-tech community, offering exceptional living and working conditions, diverse cultural attractions, and a vibrant economy.

The CSE Department resides within the Idle School of Engineering and offers B.S., M.S., and Ph.D. degrees in Computer Science, as well as the M.S. in Security Engineering and Software Engineering. The Department currently has 15 faculty members with research concentrations in security engineering, VLSI and digital computer architecture, parallel and distributed computing, software engineering, databases, systems, networking, operating systems, and related areas. Additional information may be found at: labs.ceu.edu/cs.

Interested individuals should send a complete resume and names of three references, including one statement of research interest, to: csejobs@ceu.edu

OR

CSE Faculty Search
Department of Computer Science and Engineering
SMU
Dallas, TX 75235-0122

The committee will begin its review of the applications on or about February 15, 2010. To ensure full consideration, applications must be postmarked by February 1, 2010.

Stony Brook University

School of Engineering and Applied Science
Assistant Professor (Multiple Positions)

Stony Brook University’s Department of Computer Science currently has five assistant professor positions for Fall 2010. Highly qualified junior candidates in areas related to intelligent computing, particularly in natural language processing, data mining, machine learning, artificial intelligence, computer vision, and intelligent user interfaces are encouraged to apply. Applicants should hold a Ph.D. in Computer Science or a closely related discipline.

The Department currently has over 40 faculty members and is expected to recruit additional members in the next few years. There are five main research areas in the department: computer systems, visual computing, logic programming/database, concurrency/verification, and algorithms. Detailed information on the areas of opportunity can be found in the department home pages: www.cs.stonybrook.edu.

The Department is in a stage of rapid expansion, including a new Computer Science building, along with a new Center of Excellence in Wireless and Security (CEWS) and a new Center for Computer and Information Science (CCS) building. The Department is also associated with the New York Center for
Professional Opportunities

The University of New Mexico
Great people doing great things

Computer Science Assistant Professor Position

The Department of Computer Science invites applications for a probationary appointment leading to tenure. The Department seeks candidates who are creative and dynamic in their teaching, research, and service, including but not limited to large data systems, networked software design and engineering, programming languages and software engineering, and M and A adaptive systems. We are especially interested in those who have significant research experience, and who are interested in relating the boundaries of computer science with computer applications.

Applications will only be accepted online through the University of New Mexico's website at:

https://academicjobsonline.org/ajo/listing?job=04090

For more information, contact the Chair of the Search Committee at:

Ms. Kathy Waskom (k-waskom@tamu.edu)

The University of New Mexico is an equal opportunity/affirmative action employer and does not discriminate on the basis of race, color, national origin, sex, religion, age, sexual orientation, gender identity, gender expression, disability, veteran status or genetic information. The University of New Mexico is a tobacco-free campus.

Texas A&M University
Department of Computer Science and Engineering
Tenure-Track Assistant Professor

Applications are invited for tenure-track positions, starting fall 2010, in the Department of Computer Science and Engineering of the Dwight Powell College of Engineering at Texas A&M University. As part of a long-term plan to increase the size and improve quality, the department is expanding with an assistant professor position in the area of security, with the goal of having the faculty member take advantage of some unique opportunities made available through the Multi-program Research and Education Facility (MREF) at TAMU. MREF allows for faculty to conduct top secret or confidential research in a secure facility. Hence, preference will be given to faculty candidates who will be able to obtain federal security clearance within the first two years. Top candidates in other areas at all professor levels (Assistant, Associate, and Full) will also be considered. Candidates must have a Ph.D. degree and will be expected to teach, perform research, and supervise graduate students.

Texas A&M University CS faculty applicants should apply online at:

https://apply.t2e.tamu.edu/tcs/applicants

For questions about the positions, contact: search@tcs.tamu.edu.

Applications are welcome from dual career couples.

Toyota Technological Institute at Chicago (TTI-C)
Computer Science Faculty Positions at All Levels

Toyota Technological Institute at Chicago (TTI-C) is a philanthropically endowed departmental institute for computer science located on the University of Chicago campus. The Institute is exposed to scholars in a steady-state of 12 traditional faculties (tenure and tenure track), and 12 limited-term faculty. Applications for all positions are being accepted in all areas, but we are particularly interested in:

- Theoretical computer science
- Machine learning
- Computational linguistics
- Computer vision
- Numerical analysis and information retrieval
- Information extraction, social network analysis and information retrieval
- Learning

Applications at all ranks are encouraged. Women and minorities are strongly encouraged to apply.

Tufts University
Tufts Medical Center & Computer Science Department
Postdoctoral Fellowship in Machine Learning

A postdoctoral position is available for an outstanding individual capable of taking a leading role in research on machine learning, algorithms for information extraction, social network analysis and information retrieval. This project is joint with the Tufts Medical Center and Computer Science Department. The fellowship will be offered directly with the Tufts medical learning group (http://www.tufts.edu/research/rch/lc.html). barley@cs.tufts.edu, Carla Brody and Ross Hjortland are currently involved in these areas. polepiece@cs.tufts.edu. The initial period for the fellowship is 1.5 to 2 years. A Ph.D. in Computer Science in the area of machine learning is required.

Professional Opportunities

Continued on Page 18
University of Arkansas — Fayetteville
College of Engineering
Computer Engineering - Assistant Professor
The University of Arkansas — Fayetteville, a leader in engineering education and research, is seeking applications for tenure track faculty positions at the Assistant Professor rank. The College of Engineering offers ABET accredited degrees and Ph.D. programs through its seven departments. The college has 1,773 undergraduates, 750 graduate students and supports 33 endowed faculty chairs/professorships. During the past year, the research expenditures of the college total $12.7 million.

Successful candidates are expected to: 
- Broaden the University’s research base: 
  - Agricultural, Chemical, Civil, Computer Science and Computer Engineering. 
- Develop and maintain an ABET accredited degree and Ph.D. programs through its seven departments. 
- The University has a strong emphasis on diversity of our faculty. Members of underrepresented groups are strongly encouraged to apply.

University of Kentucky
Department of Computer Science
Assistant Professor
The University of Kentucky Computer Science Department invites applications for a tenure-track position in Digital Technologies beginning August 15, 2010 at the assistant professor level in vision/graphics. Candidates must have a Ph.D. in Computer Science. Specific information about the position and the application process is available at http://www.cs.uky.edu/employment/positionsearch.

The University of Kentucky Computer Science Doctoral Program recently ranked in the top 20% of such programs (10 out of 117) in a nationwide analysis. The rankings — produced by Academic Analytics — are based on the Faculty Scholarship Performance Index (FSPI), a measure of actual faculty publication, citation, and funding ratios. Among doctoral programs at public universities, UKCS was ranked 36th.

Applications will be accepted until February 1, 2010 or until a suitable candidate is found.

Professional Opportunities

University of Massachusetts Boston
Department of Computer Science — www.cs.umb.edu
Assistant Professor
The Computer Science Department at the University of Massachusetts Boston invites applications for Fall 2010 for one full-time tenure-track Assistant Professor position in Network Security. We are most interested in a network researcher who wants to teach us, and develop curriculum for, a new and growing Information Technology major with an emphasis in System Administration. We offer a BS in Computer Science, a BS in Information Technology, an MS with an emphasis on software engineering, and a Ph.D. in computer science. Current faculty interests include biometrics, computer and human vision, data mining, databases, information technology, networks, software engineering, system monitoring, and theoretical computer science.

University of Nevada Reno
Department of Computer Science
Assistant Professor
Applications are invited for tenure-track faculty positions in the Computer Science Department at the University of Nevada Reno. We are interested in candidates with expertise in a field such as computer science, information technology or software engineering, as well as in areas such as communication, education, social sciences or law.

Applications will be accepted until the search is closed. For additional information, please contact Kathy Jones, Assistant to the Dean, at 702-784-2790 or by email at kathy.jones@rensselaer.edu. See also http://www.cs.rpi.edu and remain open until the position is filled. See also http://www.cs.umass.edu/ for additional information.

University of Oregon
Department of Computer Science
Assistant Professor
Applications are invited for a tenure-track faculty position in Computer Science beginning August 2010, to be filled at the assistant professor rank. Appointments are available at the assistant professor level. Applicants must hold a Ph.D. or equivalent degree prior to the appointment.

Applications are invited for a new Assistant Professor position in Computer Science and Engineering at the University of North Texas. Applicant must hold an earned doctoral degree (Ph.D.) in digital signal processing, information theory, machine learning, data mining, computer vision, speech recognition, pattern recognition, bioinformatics, computational and systems biology, or related fields.

The successful candidate will be expected to develop a strong research program, to teach courses at the undergraduate and graduate levels, and to participate in the activities of the Department.

Review of applications will begin and continue until the position is filled. Applications should include a cover letter, a curriculum vitae, a complete description of research and teaching interests, and three letters of recommendation. Review of applications will begin on December 1, 2009 and will continue until the position is filled.
Tenure-Stream Faculty Position
School of Information Sciences
Aboriginal Peoples and persons with disabilities are encouraged to apply.

The Department of Computer Science at the University of Rochester is a top-ranked academic program
and is competitive and will be commensurate with a Ph.D. in computer science or related disciplines.

Equal Opportunity, Affirmative Action facultyopenings.php

We are interested in candidates with research expertise in Computer Systems, including Operating Systems, Networks, Distributed Systems, Database Systems, Computer Architectures, Programming Languages, and Software Engineering.

The positions start Fall 2010. Salaries are competitive. Please send: (1) a cover letter noting your specialization, (2) vitae, (3) statements of teaching and research interests, and (4) names and contact information of at least three references to: Dean’s Office

University of Toronto

The University of Rochester Department of Computer Science

The Department of Computer Science at the University of Rochester invites applications for a tenure-track position for 2010. Candidates in computer vision, machine learning, natural language processing, and algorithms are of particular interest, but strong candidates from all areas of computer science are welcome. Candidates must have a Ph.D in computer science or related discipline.

Senior candidates should have an extraordinary record of scholarship, leadership, and funding.

The University of Rochester is a private, Top 2 research institution located in western New York State. The University is consistently ranked among the top 10 institutions, both public and private, and is fully funded for the Global Environment. Half of its undergraduates go on to graduate or professional education. The university includes the Eastman School of Music, a premiere music conservatory, and the University Medical Center, a major teaching hospital, research center, and hospital system. The Rochester area features a wealth of cultural and recreational opportunities, excellent public and private schools, and a low cost of living.

Candidates should apply online at http://www.rochester.edu/recruit. Review of applications will begin on Dec. 1, 2009, and continue until all interview slots are filled.

The University of Rochester has a strong commitment to diversity and actively encourages applications from candidates from groups underrepresented in higher education. The University is an Equal Opportunity Employer.

The UTSA College of Engineering

The UTSA College of Engineering at the University of Texas at San Antonio (UTSA) seeks candidates for two tenure-track Assistant Professor positions in Computer Engineering (ELEN 10-18). All candidates must have a potential/proven record in teaching and active research. The positions require a Ph.D. in computer science, computer engineering or a closely related area. Highest priority will be given to candidates who can support the softw...
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Professional Opportunities

We will consider applicants in all areas of computer science, but are especially interested in applicants who will help advance our curriculum in computer systems and software engineering. The University of Toronto is an international leader in computer science research and education, and the Department of Computer and Mathematical Sciences enjoys strong ties to other units within the University. The successful candidate for this position will be encouraged to engage in collaborative research with other computer science faculty at the University, as well as to contribute to the development of computer science academic programs at the University’s Scarborough campus.

Application materials, including curriculum vitae, research statement, teaching statement, and three to five letters of recommendation, should be submitted online at www.mathjobs.org, preferably well before our deadline of January 17, 2010.

The Department of Computer and Mathematical Sciences, University of Toronto Scarborough (UTSC), offers appointments in Computer and Mathematical Sciences at the Rank of Lecturer, to begin July 1, 2010. Positions include lecturing, conducting tutorials, grading, and curriculum development in a variety of undergraduate courses.

We are especially interested in candidates who will help advance our curriculum in the areas of computer systems, software and systems, and software engineering.

Candidates should have a post-graduate degree, preferably a Ph.D., in Computer Science or a related field, and must demonstrate potential for excellence in teaching at the undergraduate level. Appointment at the rank of Lecturer may be renewed annually to a maximum of five years. In the fifth year of service, Lecturers shall be reviewed and a recommendation made with respect to promotion to the rank of Senior Lecturer. Salary will be commensurate with qualifications and experience.

Application materials, including curriculum vitae, a statement of career goals and teaching philosophy, evidence of teaching excellence, and a minimum of three reference letters should be submitted online at www.mathjobs.org, preferably well before our deadline of March 1, 2010.

Please Note: We are only accepting applications at: www.mathjobs.org.

For more information about the Department of Computer & Mathematical Sciences @ UTSC, please visit our home page: www.utscc.utoronto.ca/~csms.

University of Toronto Scarborough

The University of Toronto Scarborough continues to garner national and international recognition, with a growing number of students, faculty and staff. Our space in the Paul G.荧光 showed, our students and faculty are engaged in all aspects of university life, from teaching to research to community service.

We are a dynamic and diverse community, with a strong commitment to excellence in teaching and research. Our faculty, staff and students come from over 100 countries, and our students represent a wide range of backgrounds, interests and experiences.

The University of Toronto Scarborough invites applications for a position as the Mendelson Visiting Assistant Professor, to begin July 1, 2010.

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University of Toronto

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University of Virginia

The University of Virginia was founded in 1819 and is one of the nation’s oldest and most respected public research universities. The University is organized into 11 separate schools, including the School of Engineering and Applied Science, and the School of Law. The University is located in Charlottesville, Virginia, a beautiful college town with a rich history and a strong sense of community.

The School of Engineering and Applied Science is one of the largest and most diverse engineering schools in the country, with more than 7,000 undergraduate and graduate students and nearly 500 faculty members. The School offers 21 undergraduate majors and 12 graduate programs, covering a wide range of fields, including computer science, electrical engineering, mechanical engineering, and others.

The University is committed to excellence in teaching and research, and is recognized for its strong collaborations with industry and government. The School of Engineering and Applied Science has several centers and institutes, including the Center for Creative and Emerging Media, the Center for Research, and the Center for Textile Design.

The University is also home to several national research centers, including the National Center for Supercomputing Applications (NCSA), which is one of the world’s leading centers for high-performance computing and data analysis.

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Professional Opportunities

February 1, 2010 will be given priority consideration. Open positions are contingent on funding.

The University of Washington was awarded an Alfred P. Sloan Award for Faculty Career Flexibility in 2006. In addition, the University of Washington is a recipient of a National Science Foundation ADVANCE Institutional Transformation Award to increase the participation of women in academic science and engineering careers. We are building a culturally diverse faculty and encourage applications from women and minority candidates. The University of Washington is an affirmative action, equal opportunity employer.

University of Washington Computer Science & Engineering and Electrical Engineering Tenure-Track Research Faculty, Ref. AA4440

The University of Washington’s Department of Computer Science & Engineering and Department of Electrical Engineering have jointly formed a new UW Elec & Comp Engineering Lab (ECELab). In support of this effort, the College of Engineering has committed to hiring at least two new faculty members by the fall of 2010. For the first year, we will have one open position, and encourage exceptional candidates to combine ECE, computer engineering, as well as computer science, at the tenure-track Assistant Professor, Associate Professor, or Professor, or Research Assistant Professor, Research Associate Professor, or Research Professor to apply. Successful candidates will also possess expertise in interdisciplinary programs. Successful candidates will have experience in programming languages/software engineering and will continue until the position(s) are filled. The anticipated date of appointment is fall 2010. The University of Texas at El Paso is an Equal Opportunity/Affirmative Action Employer: The University does not discriminate on the basis of race, color, national origin, sex, religion, age, disability, veteran status, or sexual orientation in employment or the provision of services.

UNIVERSITY OF WASHINGTON

Overview of Application Guidelines

Applications should consist of a letter of application, a complete curriculum vitae, statement of research and teaching interests, and the names of at least three references. Applications received by January 3rd, and will continue until the position is filled. Questions should be addressed to Dr. Rich Furman at rcfurman@u.washington.edu or by phone at (206) 616-4848. For the complete position description, please visit our website: http://www.cs.washington.edu/academic/jobs/ad08at.html

The University of Washington is building a culturally diverse faculty and strongly encourages racial and ethnic minorities, women, and persons with disabilities to apply. University of Washington Tacoma faculty engage in teaching, research, and service. The position is contingent upon funding.

University of Waterloo

Department of Management Sciences
Faculty Positions in Human-Computer Interaction

The Department of Management Sciences at the University of Waterloo invites applications for full-time faculty appointments. The positions are at any level to start any time in 2010. Applicants should hold a PhD, or be near completion of their degree, and have demonstrated research and teaching potential in individual/ systems engineering, computer science or related area. Preference is given to candidates with a PhD in computer science or related area. The successful candidate will have experience in programming languages/software engineering and will continue until the position is filled. Questions should be addressed to University of Wisconsin-Madison Computer Science Department Assistant Professor, Associate Professor, or Professor of Computer Sciences

The Computer Sciences Department at the University of Wisconsin-Madison has an opening for a tenure-track Assistant Professor in any area of Computer Sciences, or a tenure Associate or Full Professor with a specialization in programming languages/software engineering. In addition to programming languages/software engineering we are especially interested in candidates in HCI, theory, natural language processing, and robotics, but our search is not limited to these areas.

Applications must have a Ph.D. in Computer Sciences or a closely related field prior to the start of the appointment. Candidates for a tenured appointment must have a record of distinguished teaching and scholarly research. Candidates for a tenure-track appointment must show potential for developing outstanding and highly visible scholarly research as well as excellence in undergraduate and graduate teaching. Applicants should submit a curriculum vitae, a statement of research objectives and a brief discussion of the applicant’s fit with the qualifications and responsibilities outlined above, highlighting their leadership, research, service and teaching. Applicants must also provide the names and contact information for five references. Submit materials electronically to humanresources@cs.wisc.edu.

January 2010

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Professional Opportunities

University of Wyoming
Department of Computer Science
Assistant Professor

The Computer Science Department at the University of Wyoming seeks applicants for a tenure-track faculty position at the assistant professor level to start Fall 2010. The Computer Science Department is one of six departments in the College of Engineering and Applied Science. The department includes M.S., and Ph.D. degrees in Computer Science. The University has a strong and growing Computing and Computer Science Program supported by several departments and colleges. The successful candidate is expected to collaborate with one or more of these departments and has an opportunity for collaboration with the National Center for Atmospheric Research (NCAR), located in Boulder, Colorado, approximately two hours distance from campus. UW and NCAR are formulating an agreement to build a new supercomputer center in Wyoming, which will provide exceptional opportunities for the position.

UW is a thriving research University located in Laramie, Wyoming (pop. 28,200), 130 miles northwest of Denver. Laramie is a picturesque and friendly town offering a reasonable cost of living and easy access to communities in the Rocky Mountain region. Additional information on the Department, College, University, and Laramie is available at ber.xwy.ed, http://www.cs.uwy.ed, and http://www. lamarroro.com.

Required qualifications: Candidates must have a Ph.D. in Computer Science or a closely related field. Responsibilities of the position include establishment of a vigorous research program, teaching at the undergraduate and graduate levels, advising, and service to the University. Preference will be given to candidates with research and teaching interest in computer architectures, and/or data mining. Relevant research and teaching interests in artificial intelligence, machine learning, privacy, security, networks, data management, and algorithms are also desired.

UW is an Equal Opportunity/Affirmative Action employer.

Inquiries: Apply online at https://jobs.wyominged.gov/.

Wentworth Institute of Technology
Computer Science Department
Assistant Professor

Full-time faculty position starting in 2010. Preference will be given to candidates with significant expertise in at least one of the following areas: (1) Graphics programming; (2) Networking; (3) Bioinformatics. In addition, candidates should be able to teach standard undergraduate courses in areas including Network Technology, Operating Systems, Object-Oriented Programming (C++ and Java), C, Database Management, Algorithm Design, Software Design, etc. Although the primary mission of the faculty is to teach undergraduate courses, they are also expected to engage in research and render service to the institute (such as undergraduate advising and serving on committees). Requirements: A PhD in Computer Science (or closely related field) or a master’s degree plus significant teaching and industrial experience is preferred. A PhD in Computer Science is preferred. Significant college teaching experience is also preferred. To apply, please visit our online application site at: http://jobs.wt.edu/applicants/ CentralQuickFind=5046.

Wentworth is an Affirmative Action employer. Women and minorities are encouraged to apply. Wentworth is a tobacco-free campus.

Wright State University
Department of Computer Science
Post-Doctoral Researcher Position

The Advanced Visual Data Analysis laboratory of the Department of Computer Science and Engineering at Wright State University seeks applicants for a Post-Doctoral Researcher position. The Advanced Visual Data Analysis laboratory is involved in several projects in scientific visualization and biomedical image analysis. The Post-Doctoral Researcher will specifically be involved in the research team for advancing tools to analyze CT-scanned human hearts by extracting various geometric properties to improve the detection of diffuse coronary artery disease. The Advanced Visual Data Analysis laboratory provides a friendly work environment with the opportunity to work directly with students of Computer Science. The successful applicant is required to have an earned Ph.D. degree in Computer Science or a related field and is expected to be proficient in C++, image processing, computer graphics, and visualization and familiar with a Linux environment.

Applications should provide a brief statement of their research interests and goals. The applicant should describe a complete vitae with the names, addresses, telephone numbers, and e-mail addresses of at least two references, plus any additional supporting information. For more information and to apply go to: https://jobs.wright.edu/applicants/ CentralQuickFind=51223.

Consideration of candidates starts November 23, 2009. For details and information, you may call (937)775-5075 or contact Thomas Wischgoll, thomas.wischgoll@wright.edu.

Wright State University is an equal opportunity/affirmative action employer.
About the Snowbird Conference: The biennial CRA Conference at Snowbird is the flagship invitation-only conference for the leadership of the North American computing research community.

Invites: Computer science, computer engineering, and information technology department chairs; assistant, associate, and prospective chairs; directors of graduate or undergraduate education; directors of industry or government research labs/centers; and professional society or government leaders in computing.

The conference site: The Snowbird Resort is located in the Wasatch Mountains about 30 miles from Salt Lake City. A top-rated ski resort in the winter, off-season at Snowbird offers hiking amidst beautiful scenery.

This year at Snowbird: Yok Matsuoka, Torode Family Endowed Career Development Professor at the University of Washington, will be the after-dinner speaker on the opening night of the conference. Her topic will be: “Move Better with a Robot.” One of the plenary speakers will be Dr. Regina E. Dugan who was sworn in as the 19th Director of DARPA on July 20, 2009. She will outline her vision for the Agency; the need for adaptability and discontinuity; the willingness to challenge one’s world view; and a conceptual framework for creating strategic surprise and disruptive changes. There will be numerous parallel workshop sessions, a workshop for new department chairs, a “State of the CRA” address, and presentation of the CRA Distinguished Service and A. Nico Habermann Awards. Below is a preliminary program that will continue to be updated on the CRA website (https://www.cra.org) as additional information becomes available. Online registration will open in April.

Plenary Sessions

1. Why Can’t Teaching Be More Like Research?
   Chair: Lynn Andrea Stein (Ulin College of Engineering)
   Speaker: Sally Fincher (University of Kent)

2. Peer Review in Computing Research
   Chair: H.V. Jagadish (University of Michigan)
   Panel Moderator: Moshe Y. Vardi (Rice University)
   Speaker: Rich Baranuik (Northwestern University); Lance Fortnow (Northwestern University); Jeffrey Mogul (HP Labs); Jeannette Wing (NSF)

3. Making a Federal Case for Computing
   Chair: Fred Schneider (Cornell University)
   Speaker: Peter Harsha (CRA)

4. Foresight and Flexibility
   Chair: Peter Lee (DARPA)
   Speaker: Regina Dugan (Director, DARPA)

Workshops

• The CS/10k Project
   The CS/10k Project aims to transform high school computing with a rigorous and well-taught curriculum centered on a completely new Advanced Placement (AP) course. The new course will replace AP CS A, but will provide a more accessible option for students. It will be rigorous, but also engaging and inspiring. It will not be programming-centric, but instead will focus on the fundamental concepts of computing, while exposing students to its breadth of application and “magic.” This panel covers the motivation, design methodology, and current thinking for the new course in the larger context of high school computing curriculum.
   Chair: Jan Camy (NSF)
   Panel: TBA

• CRA-E Report on Basic Computing Knowledge
   CRA-E was created by CRA to explore the issues of undergraduate education in computing and computational thinking for those who will do research in disciplines from the sciences to the humanities. The committee generated six recommendations in two main themes: mechanisms for refactoring the computer science curricula that provide a flexible and adaptable range of options, and issues of mind skills and mastery that pervade the entire curriculum, from introductory “attractor” courses through the advanced courses taken by seniors heading to graduate school. In this session, we will discuss these recommendations.
   Chair: Mary Fernandez (AT&T Labs Research)
   Speaker: Andries van Dam (Brown University)

• Enriching Undergraduate Learning Through Apprenticeships
   Learning a discipline and preparing for a profession benefit greatly from exposure to a variety of teachers, each helping to develop a student’s education through his or her own experience. This workshop explores three modes of apprenticeship: cooperative education, research internships, and mentorships. Cooperative programs supplement academic teachers with managers and senior co-workers from industry and government. Research internships provide opportunities to work with senior researchers from academic or industrial laboratories. Mentorships engage experienced professionals to motivate and guide students towards their objectives. Each speaker will outline a form of apprenticeship and describe how to incorporate it, or improve it, within your undergraduate program.
   Chair: Frank Tempa (University of Waterloo)
   Panel: Arnie Dick (University of Waterloo), Ran Libeskind-Hadas (Harvey Mudd College), David Purash (MentorNet)

• CCC Workshop on Discovery and Innovation in Health IT
   Chair: Susan Graham (University of California, Berkeley)
   Panel: TBA

Workshops continued on next page
Computing Research News

CRA CONFERENCE AT SNOWBIRD ◆ JULY 18 – 20, 2010 ◆ SNOWBIRD, UTAH
PRELIMINARY PROGRAM

Workshops continued from page 23

- Education in the Magic Circle: The Promise of Games
  A strong motivator for students entering computer science programs is a desire to create computer games. This session will present success stories from several computer science departments that have dramatically and persistently increased their enrollments by offering strong, game-oriented degree programs. Games also can be inspirational for K-12 education: we present an update on efforts to use computer games as a means of educating students in traditional K-12 subjects.
  Co-Chairs: Michael Mateas (University of California, Santa Cruz) and John Nordlinger (Microsoft)

- Computer Science and Global Development:
  A New High-Impact Research Area
  There has been a recent explosion in the use of information and communication technologies (particularly mobile phones) in many developing countries. These technologies have the potential to aid in many global development efforts, including those focusing on public health, sustainable livelihood development, the environment and education. Computer Science researchers have been assisting in these efforts by developing novel approaches for long-distance wireless networking, human-computer interaction for different literacy levels and cultures, and low-cost computing devices, among other areas. Technical research must be inherently multi-disciplinary, as it seeks to use the tools and techniques of Computer Science to address problems faced by these domains. This session will summarize and discuss some of these efforts, and provide a brief overview of this new but growing field.
  We will also discuss our proposal for SIGDEV, a new ACM special interest group focusing on this topic.
  Speakers: Tapan Parikh (University of California, Berkeley), and Lakshmi Subramanian (New York University)

- Communicating Computer Science
  Computing has become extremely complex, especially with the rapid leaps made in the Internet, hardware, entertainment and information science. The trend over the past ten to fifteen years has been to present computing via applications that are visual and application-oriented. Computer scientists have been tasked with the challenge of making computing palatable to the general public, and this they have done royally with robotics, gaming, applications in medicine, sensors, early education, to name a few. However, such exposure is at the expense of what is happening underneath. Thus the terminology of our core disciplines—graphics, languages, OS, AI, SE, networks—is much less known. It is time to assess and reverse this trend.
  We will be looking at novel ways to communicate our science to the public, to stakeholders, and to university management. Speakers in this session have experience in a wide variety of public communication.
  Chair: Judith Bishop (Microsoft)
  Panel: TBA

- The Computing Innovation Fellows (CIFellows) Program
  The past year’s economic downturn caused universities and companies to severely curtail their hiring of new PhDs in computing fields. In February 2009, when it became clear that many new PhDs were in danger of falling out of research and education careers, a project was undertaken, with support from NSF, to create opportunities for at least some new PhDs to start careers in top research and education organizations, thereby saving the large investments that have been made in their training and education.
  In this session, we will review the origins, structure, and process of the CIFellows Project. We will discuss some preliminary lessons learned, plans for continued assessment, and possibilities for the future.
  Ultimately, the future of CIFellows will be determined by engaging the community, starting with this session at Snowbird.
  Speakers: Peter Lee ( DARPA)

- Understanding and Using Graduate Program Rankings in Computer Science
  Computer Science rankings, whether by the National Research Council, The US News and World Reports, or by any of several other groups generate considerable discussion among faculty, students, and academic administration alike. In this panel, we overview several different ranking efforts of graduate programs and research activity in computer science departments and the methodologies by which these rankings are established. We also discuss various perspectives on how rankings might be used or misused by individuals, and will have an open discussion on what advice/perspectives that we, as a community, might want to provide to these individuals.
  Chair: Jim Kurose (University of Massachusetts)
  Panelists: Charlotte Kubi (National Research Council); Other panels (TBA)

- CRA Guidelines for Coordinating Faculty Recruitment
  In 2008, the CRA Board considered the issue of faculty hiring practices, especially the timing of the process and associated gridlock: as faculty candidates wait to hear from universities and vice versa. Several problems were identified with the current procedures and guidelines were suggested for improvement. The effectiveness of the improvements depends on how broadly they are implemented, and thus we need, as a community, to decide if we have a strong will to implement new procedures. This session will review the CRA’s proposal, encourage open discussion on the proposal, and discuss potential implementation.
  Chair: Jeffrey Vitter (Texas A&M University)

For program details and registration information, please see the CRA website: http://www.cra.org; e-mail: snowbird@cra.org.

Additional Opportunities at Snowbird:

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<th>CRA Board of Directors Meeting – July 17-18</th>
<th>Workshop for New Department Chairs – July 18</th>
<th>CRA-Deans’ Meeting – July 20-21</th>
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<tr>
<td>Debra Richardson (UC Irvine)</td>
<td>Mark Cennert (WPU), Barbara Ryder (Virginia Tech), and Darrell Whitley (Colorado State)</td>
<td>Debra Richardson (UC Irvine)</td>
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Conference Sponsors: ACM; Avaya CA Labs; Google; IBM; Intel; Microsoft Research; Mitsubishi Electric Research Labs; Sun Microsystems; and USENIX.

Organizing Committee
Co-Chairs: David Notkin (University of Washington); Academic Co-Chair Mary Fernández (ATT Labs – Research); Labs/Centers Co-Chair

Members
Sarita Adve (University of Illinois at Urbana-Champaign); Judith Bishop (Microsoft Research); Ed Fox (Virginia Tech); H.V. Jagadish (University of Michigan); Renée McCauley (College of Charleston); Bobby Schnabel (Indiana University); Fred Schneider (Cornell University); Mark Segal (National Security Agency); Lynn Andrea Stein (Olin College); and Frank Tompa (University of Waterloo).