Congress Debates Support for Science in Stimulus, Appropriations

By Peter Harsha

The first significant spending bill to cross newly elected President Barack Obama’s desk for approval in mid-February likely will be a mammoth $900 billion economic stimulus package that could include nearly $10 billion in federal research funds and research infrastructure support. That bill could be followed shortly by another big spending bill—an omnibus appropriations bill that includes funding for nearly every federal agency for FY2009, including hoped-for increases to the National Science Foundation, National Institute of Standards and Technology, and Department of Energy’s Office of Science.

In both cases, members of the science advocacy community are hopeful that increases called for in early versions of the bills will survive the legislative process. But as this goes to press in early February, a few significant hurdles threaten science funding in both bills, and the community is working feverishly to bolster support for science among Members of Congress.

The American Economic Recovery and Reinvestment Act of 2009 would provide nearly $90 billion in new spending and $28 billion in existing funds for new or expanded programs, including new infrastructure investments in scientific infrastructure programs, and even investments in long-term fundamental research at federal science agencies.

While many in the science community are thrilled at the possible increases, the differences in approach between the House and Senate are bringing some uncertainty to the process, making the final total very difficult to predict. The House version is decidedly more generous in its science investments than is the Senate bill, largely due to increased pressure felt by the Senate leadership to court Republican support for the spending measure because of the lack of a filibuster-proof majority.

Most notably, the Senate bill would contain significantly less additional funding for NSF and DOE’s Office of Science than would the House bill. In the Senate bill, the Office of Science is slated for a $430 million increase, including $100 million for DOE’s Advanced Scientific Computing Research (ASCR) program. In contrast, the House has approved a $2.0 billion increase for DOE’s science budget, including $1.6 billion for the Office of Science (including $100 million for ASCR), and $400 million for a new Advanced Research Projects Agency-Energy (ARPA-E), called for in the 2007 America COMPETES Act.

The Senate bill would also include less than half of the House-approved increase for NSF. Under the Senate plan, NSF would receive $3.4 billion, including $1.2 billion for core research accounts, $50 million for the Education and Human Resources Directorate, and $150 million for Major Research Equipment and Facilities Construction. The House passed a far more generous plan, approving $3 billion in new funding for the agency, including $2.0 billion for fundamental research support, $300 million in Major Research Instrumentation, $200 million in Academic Research Facilities Modernization, $100 million for the Education and Human Resources directorate, and $400 million for Major Research Equipment and Facilities Construction.

Because of the discrepancy in funding amounts, the differences will have to be worked out “in conference” between members from both chambers. That process is expected to conclude in mid-February (after this article has gone to press). CRA will have all the details of the final outcome of the stimulus debate on the Computing Research Policy Blog (http://cra.org/blog).

Though there is generally strong bipartisan support for science in both chambers, the inclusion of science in the stimulus package and in the FY10 and subsequent budgets. A number of these essays were forwarded for action (e.g., to OMB and to science agencies such as NIH). While this is encouraging, only time will tell the extent to which this effort will bear fruit.

One of the largest and most visible CCC activities has been the funding of visioning workshops in various areas of computing to help build and reinforce research communities. In the past year, CCC has supported workshops on a range of topics, including network science and engineering, cyberphysical systems, robotics, “big data” computing, and theoretical computer science. Workshops planned for the coming year include topics on global resources for online education, achieving predictable systems from unpredictable components, how free/open source software fits with CS research, and information technologies for the developing world. The CCC is constantly reviewing and process, making the final total very difficult to predict. The House version is decidedly more generous in its science investments than is the Senate bill, largely due to increased pressure felt by the Senate leadership to court Republican support for the spending measure because of the lack of a filibuster-proof majority.

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It is startling to learn that approximately 16% of the US population of working age have disabilities. Some of these individuals are so cognitively or emotionally disabled that they cannot work, but most are capable of working and contributing to society. Within information technology (IT) fields the numbers compiled by the National Science Foundation (NSF) from various sources are interesting:

- 11% of the population in school, ages 14-21, have disabilities.
- 13% of undergraduate IT majors have significant disabilities.
- 5% of graduate IT majors have disabilities.
- 0.8% of IT doctorates have disabilities (e.g., there were 53 in 1999-2004).
- 5% of employed IT scientists and engineers have disabilities.

These percentages are fairly similar for all of science, technology, engineering, and mathematics fields combined. Please note that the 5% of employed IT people is not a subset of the 11% of school age because people can become disabled throughout their lives. There are two things to note about these numbers. First, the interest in IT majors among students with disabilities is high, but their interest in graduate education is low. Second, the number of self-reported IT doctorates with disabilities is very low. It is not known why these numbers are so low, but I suspect that part of reason is pervasive low expectations throughout elementary and high school that have led to lack of preparation.

One blind graduate student I know wanted to take calculus in high school to prepare to become a scientist. A group that included his guidance counselor and math teacher met with him to explain that no blind person in the school had ever taken calculus before, and that they would not support him if he decided to take it. Through the National Federation of the Blind he finally met blind scientists and mathematicians for the first time and attended a summer “boot camp” to prepare him for college. He felt he was very fortunate to find people who really understood his potential and raised his expectations. He will receive his Ph.D. in chemistry in the near future. Unfortunately, in our society most of us feel that if someone has a disability then we should give them a break, rather than giving them an opportunity to excel.

The argument for including people with disabilities in IT fields is not just an argument that we need more IT professionals to or promote social justice. There is a strong case that including people with disabilities improves the quality of our engineering outcomes as described by William A. Walsh:

“...I believe that engineering is a highly creative profession. Research tells us that creativity does not spring from nothing; it is grounded in our life experiences, and hence limited by those experiences. Lacking diversity on an engineering team, we limit the set of solutions that will be considered and we may not find the best, the elegant solution.”

Recognition of Persons with Disabilities

On the day after the inauguration of Barack Obama, the White House posted a new web page http://www.whitehouse.gov/accessibility/ stating the new administration’s commitment to persons with disabilities and urging the Senate to ratify the United Nations Convention for the Rights of Persons with Disabilities, which has already been signed by 157 countries. There are a number of laws and policies at all levels of government and policies within organizations that recognize people with disabilities and require actions to include and accommodate them. Best known are the Americans with Disabilities Act (ADA) and the US Rehabilitation Act, Section 508.

The NSF has a number of policies and programs that focus on broadening participation, including increasing the participation of persons with disabilities. The NSF has a policy in the Grant Proposal Guide: “Conferences on meetings, including the facilities in which they are held, funded in whole or in part with NSF funds, must be accessible to participants with disabilities.” Accessibility can include accommodations such as real-time captioning or sign language interpreter for deaf participants, as well as ramps used in chair rams and accessible rooms in the conference hotel. As a member of the NSF Committee on Equal Opportunities in Science and Engineering (COESE) I have seen that NSF considers persons with disabilities in a way similar to other underrepresented groups such as women and minorities. Currently, the committee’s 13 members include African American, Native American, and Hispanic members, and two with disabilities. In 2007, the committee focused on people with disabilities and made a number of recommendations to NSF to help increase the participation of people with disabilities in science and engineering. The CISE Broadening Participation in Computing (BPC) Program funds a number of projects, including my own AccessComputing Alliance, that focus on persons with disabilities. Generally, the computing community represented by ACM, IEEE Computer Society, and CRAFT have done a good job in recognizing the need to include more women and minorities in the computing fields and taking action to increase their participation, but there has been no similar recognition and actions for persons with disabilities. There are some bright spots. The ACM has a relatively new policy on the accessibility of the Internet, including its own web pages (http://www.acm.org/public/policy/accessibility). ACM SIGACCESS has a report of its accessibility research, but also strives to educate the public to support careers for people with disabilities.” Some ACM, such as SIGARCH, offer travel support for an assistant who may have to travel with an attendee with a severe disability.

I believe that a major step in recognizing the underrepresentation of engineering science computing is to expand the annual CRA Taublieb Survey to include demographics about people with disabilities as it already does for women and minorities. Only in this way can we learn where we are and where we need to go. The data reported in this article are from a variety of sources, some publicly available and others available to universities and societies by license agreement. The Taublieb Survey polls its members departments annually for the number of students and faculty who are women or minorities, but does not ask about disabilities. All major universities provide services for students with disabilities and typically keep track of which students receive such services in their student database. Summary data can be obtained from student databases by institutional request.

Accessibility Research

One of the exciting things about computing and science in general is that it can actually make a difference by creating new technologies that enable people with disabilities to participate more fully in our field, every other field, and life generally. This research is called accessibility research because the results can enable access to activities in life that otherwise would be difficult to impossible. Advances in robotics, computer vision, natural language processing, and other fields can have a direct impact on persons with disabilities. Examples include smart vehicles that can climb and descend stairs safely used in some modern wheel chairs; speech synthesis and optical character recognition used by blind people to obtain access to both electronic and printed text; and speech-to-text used to produce real-time captions for deaf people. More study in accessibility topics can lead to solutions to problems that benefit people who are not disabled.

Affiliate Societies

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Message from the CISE AD
Educating Future Generations in Computing

By Jeannette M. Wing, Assistant Director of NSF for CISE

Computing innovations drive our economy, underlie scientific advances, change societal behavior, and support national security. Tomorrow’s innovations rely on today’s students. To sustain progress, we need a continuous supply of creative and highly trained computer science researchers, a diverse well-trained computing workforce, and an educated, IT-literate citizenry. So, how are we doing?

Some Facts

At the K-12 level, computing is rarely taught in the elementary grades, and even in high schools it is often limited to basic literacy and relegated to the vocational track, not the track for college credit. Many computer science high school teachers lack exposure to the field and are not certified. It is not unusual for students to leave high school without learning even basic skills, but also good collaborative

A Change to the Computing Community

These facts clearly add up to a charge to us: To engage today’s students in computing for tomorrow’s innovations in all fields. We certainly have the wonders of our technology to offer students. Getting a machine—be it a cell phone, a robot, or a server cluster—to do what you want is thrilling. Writing software to build a virtual world that defies the laws of nature is magical. Instantaneously reaching your friends through global social networks is cool. Teaching students to use our technology effectively and creatively and to develop the skills to produce future computing technology is our responsibility. But we offer more than our technology. More profoundly, we offer a way of thinking (aka “computational thinking”) that can empower students, no matter what field they decide to enter, no matter what profession they decide to pursue. CISE’s educational vision is based on this premise: Everyone can benefit from learning some principles of computing and the computing field can benefit from a diverse workforce trained in such principles. “Everyone” means everyone; students and teachers at every stage of the educational pipeline; from future researchers in computing to future leaders of our nation; and people of all cultures, ethnicities, backgrounds, interests, and disciplines. Moreover, CISE recognizes that our field is demanding people who not only have solid technical skills, but also good collaborative

skills. Communicating and working with others in multidisciplinary and multi-cultural teams is the norm in industry. Such collaborations are also growing in computing research, as theoreticians work with experimentalists and as computing touches all other disciplines.

What Are We As a Community Doing?

CISE is implementing its educational agenda through two complementary programs: CISE Pathways to Revitalized Undergraduate Computing Education (CPATH) and Broadening Participation in Computing (BPC). CPATH aims to revitalize undergraduate computing education and BPC aims to increase the number of postsecondary degrees in computing that are awarded to students from underrepresented groups.

CISE is not alone in its interest in computing education. Companies such as Google, Intel, and Microsoft sponsor computer science education and outreach programs. Many other computing organizations and societies have taken up the charge too; here are some examples:

K-12 With CISE funding, the National Academies’ Computer Science and Telecommunications Board (CSTB) is running a workshop series on computational thinking for everyone. The intent of the first workshop, held

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Computing Research News

MARCH 2009

Musings from the Chair
Publishing Quarks: Considering Our Culture

By Dan Reed, CRA Board Chair

Over the past thirty years, I have accumulated the common artifact of an academic research career—bookshelves overflow- ing with research journals and conference proceedings. Each time I pull an old and yellowing volume from my shelves, it is simultaneously nostalgic and thought-provoking to read a few randomly selected articles. Not only does this stroll down memory lane illuminate how far we have come, both technologically and theoretically; it also shows how profoundly the publication culture of our field has changed.

Conference Hegemony

Not that many years ago, CRA published a “best practices” memo- randum entitled “Evaluating Computer Scientists and Engineers for Promotion and Tenure” (available at www.cra.org/reports/tenure_review.html). At a time when many depart- ments were struggling to make the case to their science and engineering col- leagues that conference publications matter, this memorandum dem- onstrated that computing conference publications were of a quality compa- rable to those in archival journals. The perception battle won, is all right with our publication world? Perhaps, but I suspect not. Our prestigious conferences have become the moral equivalent of highly selec- tive journals in other fields. The computing conference review process is rigorous and highly selective, and published results are required for publi- cation. In many of our sub-disciplines, the conference paper is the final result. There is no expectation that the preliminary results will be expanded, augmented and published in a journal. Consequently, many—arguably most—of our journals have receded in signifi- cance. I believe this is a regrettable and worrisome development.

First, it has truncated the contin- uum of publication options. In most disciplines, conferences are the venue where late-breaking results, thought- provoking theories and controversial ideas are aired and debated. Many of these later are proven incorrect or validated and expanded with addi- tional data, but the free exchange of ideas stimulates research and innova- tion. At the risk of sounding like an "old geezer,” I encourage you to read some old conference proceedings. It is illuminating to see how many of our conferences have evolved from idea exchanges to publication venues.

Our emphasis on the confer- ence cycle has also encouraged and rewarded prone to proposing innovative “quarks”—units of intellectual endeavor that can be generated, sum- marized and reviewed in a calendar year. We now see new faculty and research staff candidates with more publications than were once common in promotion and tenure dossiers.

Do not misunderstand, I am not suggesting that our current conference-
CRA’s Taulbee Survey of Ph.D.-granting Computer Science (CS) and Computer Engineering departments in North America has been conducted annually since 1974. Results from the most recent survey were provided to participants and CRA members in February. They will be published on CRA’s website (www.cra.org/statistics/) and in Computing Research News in May. Due to widespread interest, CRA releases data on undergraduate degrees early.

This article reports on CS bachelor’s degree enrollments and production among Ph.D.-granting departments in the United States since the late 1990s. Data are reported in both total numbers and medians per department as the latter helps limit the effect of variation in response rates. Results from the Taulbee Survey should be compared with data produced by the National Science Foundation (NSF), which surveys all institutions that grant CS degrees (whereas Taulbee is a survey of the doctorate-granting departments only). NSF’s most recent data are from academic year 2004/2005.

According to HERI/UCLA, the percentage of incoming undergraduates among all degree-granting institutions who indicated they would major in CS declined by 70 percent between fall 2000 and 2005. Unsurprisingly, the number of students who declared their major in CS among the Ph.D.-granting departments surveyed by CRA also fell. After five years of declines, the number of new CS majors in fall 2005 was half of what it was in fall 2000 (15,958 versus 7,952). From 2005 to 2007, the number of new majors was nearly flat, and in 2008 the number has increased to 8,734.

The stabilization in the number of new majors over the past several years has, in turn, halted the decline in the total enrollment in CS. Enrollments declined steadily from their peak in 2001-02 through 2006-07, but 2007-08 saw an uptick. If the number of new majors continues to rise, enrollment will follow.

New majors take roughly three to five years to complete their degrees. We can expect, therefore, that the stabilization followed by an increase in new majors will take about that long to be seen in degree production. Unsurprisingly, the number of degrees granted fell again in 2007-08 to 7,406, a decline of about 8% from 2006-07. This does, however, represent a slowdown after several years of double-digit declines.

It is important to note that fluctuations in degree production among CS departments have happened before. According to NSF, between 1980 and 1986, undergraduate CS production nearly quadrupled to more than 42,000 degrees. This period was followed by a swift decline and leveling off during the 1990s, with several years in which the number of degrees granted hovered around 25,000. During the late 1990s, CS degree production again surged to more than 57,000 in 2004. This more recent peak has also been followed by a decline and now a leveling off, and the current increase in new majors seems likely to be a leading indicator of future increases in degrees granted.

Notes:
1 See Appendix Table 2-1 at http://www.nsf.gov/statistics/seind08/.
2 HERI/UCLA’S “CIRP Freshman Survey” is an annual survey of the characteristics of students attending colleges and universities as first-time, full-time freshmen: www.gseis.ucla.edu/HERI/CIRPOverview.php.
3 See www.cra.org/info/education/us/bs.html.

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within the stimulus bill does not garner universal support. Opposition comes in particular from fiscally conservative members of Congress who believe that the stimulus should only be for programs that can have an immediate impact on the economy—either by creating jobs within the first 120 days of passage or by cutting taxes sufficiently to get dollars in the hands of taxpayers quickly to encourage them to buy more goods and services. While some of the infrastructure-related research spending could fit that description, the investments in longer-term research will clearly take longer to pay off (though their benefits may far exceed the other investments in the bill, science advocates argue).

With a narrower majority in the Senate, the Democratic leadership is more likely to accede to Republican demands for sharper limits on spending, and this could reduce science spending levels even further below the current Senate bill. As a result, science community advocates, including CRA, have rallied their member institutions to put pressure on the House and Senate leadership to hold strong to the science funding levels contained in the House bill.

In early February, CRA joined with its coalition allies on the Task Force on the Future of American Innovation to send letters to the House and Senate leadership urging support for science because “...investments in science and engineering research, and math and science education, will provide immediate relief for America’s struggling workers and families by creating new jobs and stimulating new economic activity while laying a strong foundation for future American prosperity” (See http://futureofinnovation.org). The letters cite a recent report by U.S. National Technology and Innovation Foundation that estimates that a $72 billion investment in America’s research infrastructure will create or retain as many as 402,000 U.S. jobs for one year.

Additionally, CRA launched its own effort to rally the members of the computing community through CRAN, its Computing Research Advocacy Network to become a member of CRAN, see: http://www.cra.org/gofaasf/advocacy/cran/). Members of CRAN were asked to write their representatives in Congress and urge them to support science and research infrastructure funding in the stimulus, noting in particular how important computing research has been to innovation throughout the U.S. economy and the sciences. CRA also joined with ACM’s U.S. Public Policy Committee (USACM) to send letters to the congressional leadership expressing the importance of science funding to the computing fields and how those fields have, in turn, enabled most of our modern economy.

From the letter: “Advances in information technology enable productivity growth, enable the economy to run at full capacity, enable goods and services to be allocated more efficiently, and enable the production of higher quality goods and services. As the National Academies of Science have repeatedly pointed out, those advances—indeed, every trillion-dollar-dollar subsector of the IT industry—all bear the stamp of federal support for fundamental research in computing such as that which would be supported by this Act.”

Immediately following the final disposition of the stimulus bill, Congress plans to take up its unfinished business with the FY2009 appropriations bills. Only the Defense Appropriation for FY2009 was completed before Congress adjourned last December. Since October 1, 2008, the remaining federal agencies have been operating under so-called “continuing resolution”—meaning they can spend at FY2008 levels, but may not start new programs. As they did last year, the leadership intends to consider the unfinished bills as a single omnibus bill.

Like the stimulus legislation, the House and Senate have somewhat different approaches to spending levels that may impact final funding for science agencies in FY2009. While both House and Senate have approved versions of their bills that would grant healthy increases to science agencies, discrepancies in the versions for some of the other agencies within the bill may cause the appropriators to look to reduce some of the science increases to make up the differences. Though both the House and Senate bills call for a $44 billion, increase for NSF in FY2009, and an $844 million and $622 million increase to DOE’s Office of Science, respectively, a difference of opinion about funding for the U.S. Department of the Census could put both those increases at risk of reduction. Senate appropriators believe that the House appropriators shorted the U.S. Census by $500 million in their version of the bill. They seek to add that amount back to the Census by taking from other accounts within the same bill. The large increases planned for science would appear to make a tempting target.

As with the stimulus bill, the science advocacy community is mounting a concerted effort to make the case against such a shift in funding to the leadership and the appropriators involved in the conference. At press time, it is not clear whether that argument will prevail.

The current continuing resolution expires March 6, 2009. Congress will need to take some action—passing the omnibus or extending the CR—before that day. CRA will have the final outcome on the Computing Research Policy Blog as soon as it is known, so be sure to check it regularly.

CRA Welcomes New Staff Member

CRA is pleased to welcome Patrick Krason who joined the staff as Executive Assistant on February 9. Patrick will perform a wide variety of administrative support duties, working principally with the Executive Director and the Director of Programs.

Patrick received a BA with a major in French and minor in History from Youngstown State University. Prior to joining CRA, he was on the staff of the National Republican Congressional Committee.

CCC Update from Page 1

funding new visioning activities. If you have a community research vision that you would like CCC’s help to realize, a Request for Proposals is available on the CCC website at http://www.cra.org/ccc/vision.php.

To increase the reach of the community and ensure that CCC and its activities are truly community-oriented, the consortium has implemented a number of communications efforts over the past two years. The CCC Blog (http://www.cccblog.org/) supports discussion and networking among the computing research community and provides information on CCC activities, news items of interest to the research community, and articles and updates on various research subareas within the larger computing community. Readers are invited to comment on all the posts—and, in fact, reader comments were specifically solicited and played a major role in shaping the “Computing Research that Changed the World: Reflections and Perspectives” symposium discussed above.

The Computing Research Highlight of the Week (http://www.cra.org/ccc/highlight) is another CCC outreach activity—promoted prominently on the CCC website and e-mailed to more than 5000 active subscribers every week. The Highlight of the Week is a short summary of an article chosen by the Computing Research Association (CRA)’s Committee on the Status of Women.

The Computing Research Association (CRA) is a nonprofit, membership organization representing academic, government, and industrial computing researchers.

Collaborative Research Experiences for Undergraduates (CREU)

Application Deadline: May 1, 2009

Sponsored by CRA’s Committee on the Status of Women in Computing Research (CRA-W) and the Coalition to Diversify Computing (CDC), the CREU program is aimed toward increasing the number of women and underrepresented minorities who go on to CS&EE graduate programs. Students have the opportunity to conduct undergraduate research with a small team (2 to 4 students) at their home institution during the academic year and optionally the following summer. Formerly administered as two separate programs—CREU and MRO-W—the program includes not only computer science and computer engineering research, but may also include multi-disciplinary research. Students receive a $3,000 stipend for their work in the academic year and $4,000 for the optional summer extension. Each team can also request an extra $1,500 to be used for supporting materials and activities.

See: http://www.cra.org/craw/creu

New CRA Member

Yahoo! Labs

XX

Page 5
that blind people could read printed books. Now it is being used to convert all books in print into electronic form. Captioned television was originally developed for the benefit of deaf people, but now it is used by most of us as we watch TV in noisy airport waiting areas.

The excitement about working on problems related to disability is growing rapidly as evidenced by the number of papers in the major computer science conferences. CHI, that have contain the word “disability.”

Before 1986 there were no papers in CHI that used the word “disability.” The rapid growth since 2001 seems to indicate that the CHI community recognizes that accessibility problems are important and interesting. The activity in accessibility research has grown to the point that the highest quality work will appear in the new ACM Transactions on Accessible Computing (TACCESS) that complements the annual ACM Conference on Computers and Accessibility (ASSETS), now in its 11th year. There are several older conferences that focus on “assistive” technologies that attract engineers and inventors. CHI, TACCESS, and ASSETS papers typically contain empirical studies, with human subjects or otherwise, that help verify the efficacy of new technology.

In this short article there is no way to directly control a screen cursor or otherwise, that help verify the efficacy of new technology.

The newly formed CRA-E will be working synergistically with the College of Science Resources Statistics, NSF, to help with the statistics on persons with disabilities.

Notes:

Acknowledgment
Thanks to Joan Burrelli, Division of Science Resources Statistics, NSF, for help with the statistics on persons with disabilities.

Undergraduate
The “Rebooting Computing” project, run at the Naval Postgraduate School and partially sponsored by CNH, held a summit this past January with 240 international participants. The summit formed fourteen action groups, many related to education, spanning all levels.

The AEC Education Board leads a CISE-funded collaborative activity for organizing a high-level summit to converse the main 15 computing societies to address the future of undergraduate computing education on a national scale. The newly formed CERF will be exploring different models of engaging undergraduates in computing.

Working Synergistically
In just this past year, I witnessed a flurry of activity by many individuals and organizations focused on computer science education. The energy and enthusiasm is exciting. It even seems a bit chaotic! One reason I wrote this column is to make sure as many of us in the community as possible are aware of each other’s activities. Let’s build on each other’s results rather than separately reinvent the wheel. The synergy of all of our efforts should give us a vibrant and inclusive educational system that collectively need to develop a computing savvy 21st Century workforce.

Message from the CISE AD from Page 3

last month, was to provide definitions and dimensions of computational thinking as a basis for teaching computing to everyone, especially K-12 students. In mathematics, we teach numbers in kindergarden, algebra in seventh grade, and calculus in twelfth grade. What would an analogous progression of concepts be for computing? To answer this properly, we need to understand how children best learn what when. Thus, the second workshop will bring together computer scientists, education scientists, and learning scientists.

The Computer Science Teachers Association (CSTA), partially funded by CDPATH and BFC, supports and promotes K-12 computing science education. It strives to establish a national computer science curriculum based on ACM’s Model Curriculum for K-12.
By Ellen Zegura

What is a “Better Internet?”

The current Internet has been a remarkable success, providing a platform for innovation that far exceeds its original vision as a research instrument. It is well documented that the Internet has transformed the lives of billions of people in areas as diverse as education, healthcare, entertainment and commerce. Yet many of these successes are threatened by the increasing sophistication of security attacks and the organizations that propagate them. A materially more secure Internet would be “better.” Further, billions of people remain untouched by the advantages of the Internet; Internet World Statistics puts worldwide average Internet penetration at about 22 percent in mid 2008. An Internet that affordably reaches the other 80 percent of the world population would be “better.”

Beyond security and accessibility, there are other areas where limitations of the current Internet are significant. The Internet usually works pretty well, but every user has experienced inexplicable periods of degraded performance or outright non-function. The current Internet provides no visibility to end-users. A materially more secure Internet would be “better.”

As anyone who has ever been the editor of a computing journal knows, obtaining timely reviews is challenging. Even with gentle (and sometimes not so gentle) nagging, the weeks can stretch to months; the months sometimes turn to years. Contrast this with other technical disciplines where submissions are reviewed and published in weeks or months. Is it any wonder that paper authors in our field eschew journals for conferences with known publication dates?

As a discipline, we benefit from the entire continuum of venues for communicating research ideas and results, from informal workshops and conferences to research surveys and expanded publication in archival journals. Let’s recognize and embrace the distinct and important roles that all plays in the free and fruitful exchange of research ideas.

Dan Reed, CRA’s Board Chair, is Microsoft’s Scalable and Multicore Computing Strategist. Contact him at Daniel.Reed@microsoft.com or his blog at www.hijuelo.org.

Transitions and Awards

Jennifer Rexford, Professor of Computer Science, Princeton University, has recently completed a four-year term as an ACM representative on the CRA Board of Directors. CRA extends its thanks to Jennifer for her contributions to CRA’s activities during her time as a member.

CRA is pleased to welcome Mary Fernández, Principal Technical Staff Member, AT&T Labs Research, as one of ACM’s two representatives on the Board of Directors. Dr. Fernández will serve a two-year term, effective January 1, 2009.

Congratulations to all those recently elected NAE Fellows. Among those named are: Sergey Brin (Co-Founder and President of Technology, Google Inc.); William J. Dally (Chief Scientist and Senior Vice President of Research, NVIDIA Corp., and Wiliard R. and Inez Kerr Bell Professor of Engineering, Stanford University); Deborah L. Estrin (Director, Center for Embedded Networked Sensing, UCLA); and Gurinder S. Sohi (John P. Morgridge Professor and E. David Cronon Professor of Computer Sciences, departments of computer sciences and electrical and computer engineering, University of Wisconsin, Madison). For a complete list, see: http://www.nationalacademies.org/ onpinews/newsitem.aspx?RecordID=02062009

Congratulations to CRA board member Richard C. Waters, Mitsubishi Electric Research Labs, who was among those recently recognized by ACM as 2008 Distinguished Scientists. For a complete list of those honored, see: http://distinguished.acm.org.

Among newly named 2009 IEEE Fellows are Richard E. Ladner (University of Washington); CRA board member Fred B. Schneider (Cornell University), and former CRA board member Moshe Y. Vardi (Rice University). Congratulations to all those honored (see: http://www.ieee.org/web/membership/fellows/fellows_class_of_2009.html).

Congratulations to Susan Graham, Pehong Chen Distinguished Professor of Computer Science, UC Berkeley, who was named the recipient of the IEEE John von Neumann Medal, for outstanding achievements in computer-related science and technology (sponsored by IBM Corporation). For others recognized by IEEE, see: http://www.ieee.org/portal/pages/about/awards/p/2009msdlrecips.html.

Ellen Zegura is Professor and Chair of Computer Science at the Georgia Institute of Technology. She wrote this in her role as chair of the NiCE Council.
Professional Opportunities

CRN Advertising Policy
See http://www.cra.org/main/cra/jobshow.html

Broad Institute of MIT and Harvard
Genome Sequencing Department
Computational Research Department
Computational Biology
Computer Scientist: The Broad Institute

Apply your computing skills to DNA science and technology! Have strong computational skills, Ph.D. or equivalent experience? Enjoy solving nearly impossible problems? We’ll retreat you to work with cutting-edge DNA technology.

We find biomedical applications for new DNA sequencing instruments yielding billions of short DNA sequences like: AATGTATTTAAGATTATGAAGTATT

We need you on our team to solve the hard mathematical and computational challenges using terabytes of these data. We invent algorithms, delve deeply in the code, code like crazy, help design laboratory experiments: we do whatever it takes to unlock the mysteries of genomics and biomedical research in critical areas like cancer, human genetics, infectious disease, antibiotic discovery, genome evolution, man’s inhumanity to man, and the number 42.

We seek candidates from highly diverse backgrounds, industrial and academic.

Mathematical and computational experience and expertise in large-scale data analysis, including superb C++ skills in a Linux or Unix environment. Biology training helpful but not required as you can learn on the job. Outstanding oral and written communication skills, joy in teamwork. The Broad Institute of MIT and Harvard has an intense, exciting environment, world-class laboratory and computing facilities and hundreds of scientists tackling a wide range of critical problems in biology and medicine. Come join us!

For more information about FXPAL, please visit our website at www.fxpal.com. To apply send resume to: fpxalresumes@fxpal.com. Please reference job code CRN/5.

Extraordinarily gifted early career scientists and engineers sought to join a motivated researcher / analyst to join our team. This position offers a unique chance to conduct software engineering research and publish on projects that apply intellectual rigor to real-life problems and have an impact on organizations’ processes.

We are prepared to offer above-market compensation to candidates of traditional ability. Interested applicants should send a resume to:

CRN@ShawResearch.com

FRAUENHOFER CENTER - MARYLAND
Measurement & Knowledge Management Division
Researcher Position

The Fraunhofer Center – Maryland, a nonprofit research institute affiliated with the University of Maryland, is looking for a motivated researcher/specialist to join our team. This position offers a unique chance to conduct software engineering research and publish on projects that apply intellectual rigor to real-life problems and have an impact on organizations’ processes.

The qualified candidate will work in a collaborative, team-oriented environment. Work activities may include: Collection of quantitative and qualitative data through interviews, surveys, analyses of work products, etc.; designing solutions for storing and analyzing such data; designing and evaluating tools that relate such analyses to customer needs.

Candidates should have: A PhD, Master’s, or equivalent degree in a field related to software engineering, good scientific and technical writing skills, familiarity with measuring the effectiveness of software or system-development processes, practices, or tools; good communication skills and an ability to work effectively with scientists from other teams and present research results to customers; good problem-solving skills.

For more information see http://cm-md.tumd.edu/jobs

To apply please forward your CV to Forrest Shull (fshull@cm-md.tumd.edu).

FX PAL ALTO LABORATORY, Inc.
Research Scientist Position

FX Palo Alto Laboratory, Inc. (FXPAL) provides multimodal 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 with expertise in distributed systems and applications. We are developing distributed virtual collaboration and multimedia applications that run on everything from cell phones to laptop and desktop computers to very large clusters of multicomputer. Preferred applicants will have extensive experience with network protocols, scalable systems, distributed programming tools or multimedia technologies.

Candidates should be interested in working on practical applications in a collaborative setting and able to perform leading edge original research. A Research Scientist position requires a Ph.D. in Computer Science or related field, strong programming skills and an excellent publication record.

For more information about FXPAL, please visit our website at www.fxpal.com. To apply send resume to fpxalresumes@fxpal.com. Please reference job code CRN/5.

D. E. Shaw Research
Computational Biologist positions.

We seek computational biologists with strong interests in computational science and biology to join our team. We are seeking computational biologists with experience in genomics, structural biology, and machine learning and who wish to join a group that combines these interests to make major advances in understanding the biology of life.

Applications are invited from computational biologists with experience in genomics, structural biology, and machine learning and who wish to join a group that combines these interests to make major advances in understanding the biology of life.

Applications may be mailed to:

University of Wyoming
College of Engineering and Applied Science
1000 E. University Ave
Laramie, WY 82071 USA

Instructors for electronic submission:
http://www.cs.uwy.edu

The University of Wyoming is a Carnegie Foundation Research/Doctoral Extensive Institution, and adheres to the principle of equal employment opportunities for qualified individuals, independent of race, color, religion, sex, national origin, disability, age, veteran status, sexual orientation or political belief. We welcome applications from diverse groups, including women and people of color, and international candidates.

Forrest Shull (fshull@cm-md.tumd.edu).

Costaicel Institute of Technology

Professional Opportunities

CRN Advertising Policy
See http://www.cra.org/main/cra/jobshow.html

Broad Institute of MIT and Harvard
Genome Sequencing Department
Computational Research Department
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We need you on our team to solve the hard mathematical and computational challenges using terabytes of these data. We invent algorithms, delve deeply in the code, code like crazy, help design laboratory experiments: we do whatever it takes to unlock the mysteries of genomics and biomedical research in critical areas like cancer, human genetics, infectious disease, antibiotic discovery, genome evolution, man’s inhumanity to man, and the number 42.

We seek candidates from highly diverse backgrounds, industrial and academic.

Mathematical and computational experience and expertise in large-scale data analysis, including superb C++ skills in a Linux or Unix environment. Biology training helpful but not required as you can learn on the job. Outstanding oral and written communication skills, joy in teamwork. The Broad Institute of MIT and Harvard has an intense, exciting environment, world-class laboratory and computing facilities and hundreds of scientists tackling a wide range of critical problems in biology and medicine. Come join us!

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Candidates should have: A PhD, Master’s, or equivalent degree in a field related to software engineering, good scientific and technical writing skills, familiarity with measuring the effectiveness of software or system-development processes, practices, or tools; good communication skills and an ability to work effectively with scientists from other teams and present research results to customers; good problem-solving skills.

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George Washington University
Department of Computer Science

Faculty Positions

The Department of Computer Science is seeking applicants for two tenured-track positions in the broad areas of (1) systems and (2) telecommunications. The Assistant Professor level and one at the Associate or Assistant Professor level. Both positions require applicants to have a doctorate in Computer Science or a closely related field. At the Associate Professor level, candidates must have a doctoral degree in Computer Science and a closely related field. At the Assistant Professor level, candidates must have a doctoral degree in Computer Science by August 1, 2009. Associate Professor level applicants must demonstrate a strong record of externally funded research. Assistant Professor level applicants must demonstrate a potential for developing externally funded research programs. All applicants must have excellent communication skills and a strong commitment to quality teaching at both the undergraduate and graduate levels as evidenced by teaching assessments, etc.

The George Washington University is a private institution that prides itself on excellent research programs, a quality undergraduate and graduate education, and a strong and committed faculty. The Department has a variety of research interests and areas of expertise. All candidates must hold a Ph.D. in Computer Science by August 1, 2009. The successful candidate will begin Fall 2009.

The George Washington University is an Equal Opportunity/Affirmative Action employer.

Fuelled by educational excellence and research programs in Security, Networking, Communications, and Telecommunications, the Department has a breadth of research and educational programs that spans many areas.

Applicants should submit a curriculum vitae and a statement of teaching and research interests. The Department Chair will begin reviewing applications on February 15, 2009, and will continue until the position is filled.

For more information, please contact:
Dr. John P. McHugh
Chair, Department of Computer Science
The George Washington University
Washington, D.C. 20052

George Washington University
Department of Computer Science

Professional Opportunities

Henry M. Jackson Foundation
U.S. Army Medical Command's Bioinformatics Cell (BIC)

Scientist Position

The Henry M. Jackson Foundation is looking for junior and senior scientists to join the U.S. Army Medical Command's Bioinformatics Cell (BIC) located at the Biomedical Research Institute (BRIH). This opening is for a dynamic scientist with interest in working in an interdisciplinary environment. The focus on the development and application of computational solutions to biomedical problems, involving signal processing and analysis, time-series physiologic data, data mining, data-driven and physiologic-based models, and artificial intelligence. The candidate should have a Ph.D. in a related discipline and a strong publication record. The candidate is expected to simultaneously work in multiple projects, involving a diverse and interdisciplinary team of scientists across multiple laboratories. The position is located in Frederick, Maryland. Please submit resume to: Marilyn Bell
Executive Assistant
BIC Search Team
Tel: 301-619-8130
Email: mbell@bhsaio.org

Institute for Defense Sciences
Center for Computing Sciences (IDA/CDC)

Research Staff Member

The Institute for Defense Sciences Center for Computing Sciences (IDA/CDC) is looking for outstanding researchers to address difficult computing problems vital to the national security.

IDA/CDC is an independent, applied research center sponsored by the National Security Agency (NSA). Emphasis areas for IDA/CDC technical staff include high-performance computing, cryptography, and network security. Members of the technical staff come from a diverse variety of back grounds, including computer science, computer architecture, computer-aided electrical engineering, information processing, and the mathematical sciences; most have Ph.D.s. Special attention is paid to the technical staff's depth in a particular field as well as their ability to adapt to multiple environments.

The successful candidates will be expected to demonstrate ability to teach at the undergraduate and graduate levels. The successful candidates are expected to carry out research in one of the research centers listed by the school. Candidates are expected to teach on both MSc programmes and BEng courses. Further information about the school can be obtained by contacting: www.nts.nus.edu.sg.

Guidelines for application submission and application forms can be made to VID-SCC. The application forms can be obtained from the following address:

www.nts.nus.edu.sg/hr/Career/SubmitApplications/Pages/default.aspx

Closing Date: April 15, 2009

NCSN "Demokritos"
Institute of Informatics & Telecommunications (IIT)

Researchers

IIT of NCSR "Demokritos" expresses its interest in hiring experienced researchers for the position of Research Scientist in the field of "Information and Communication Technologies (ICT)." The research team is aiming to hire experienced researchers who will be involved in the design, development, and implementation of advanced and innovative ICT systems and services.

Located in Athens, Greece, "Demokritos" is an independent, applied research institute sponsored by the Greek Ministry of Education and the National Research Foundation (NIHRF) and is one of the leading research centers in Greece. The Institute is a partner in several European and international research projects and is a member of the European Association for Research and Innovation in Information and Communication Technologies (EUREKA). The Institute has various research activities in the fields of Information and Communication Technologies, focusing on the development of innovative and efficient ICT systems and services.

Interested researchers should hold a PhD and demonstrate sufficient prior experience in conducting research in relevant subjects.

The position is expected to start as soon as possible. All candidates should send a CV and a letter of interest to the following email address:

martis@demokritos.gr

For more information, please visit the Institute website at www.demokritos.gr.

NEC Laboratories America
Research Staff Member – Distributed Systems

NEC Laboratories America (www.nelabs.co.jp) conducts research in support of NEC US and global businesses. Our research program covers many areas reflecting the breadth of NEC business and the University of California, San Diego, in the San Diego area. Our research staff work on next generation large-scale computing platforms, simplify and automate the management of complex IT systems and services. Candidates must have a Ph.D in CS/CE with solid systems research background and strong publica-

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Multiple Faculty Positions

Information Sciences

Graduate School of Computer and Information Sciences at Nova Southeastern University (NSU) has multiple faculty openings in information systems at all ranks. Candidates must have a doctorate in information systems or a closely related discipline. The successful candidate will teach graduate courses, conduct research, and supervise student research.

The school is particularly interested in those with experience in teaching in the Southeast. The sixth largest private independent institute of higher education in the United States, NSU enrolls more than 25,000 students and is the largest independent institute of higher education in the Southeast. The school has a college of arts and sciences and of computer and Information Sciences, and it has a college of medicine, dentistry, pharmacy, psychology, education, business, oceanography, allied health and nursing, optometry, law, and more.

Applications will be considered as they are received. Formal applications must include a letter of interest, curriculum vitae, official transcripts and letters of reference; please visit the following URL for application information, or contact Prof. Sumitra Mukerjee (sumitra@mrra.Nova.edu).

http://sisa.nova.edu/faculty_openings.html

Oberlin College

Department of Computer Science

Visiting Assistant/Associate/Full Professor of Computer Science

The Computer Science Department at Oberlin College invites applications for a full-time noncontinuing faculty position in the College of Arts and Sciences. Appointment will be for a term of 1 year, with a possible renewal for a second year, beginning first semester 2009-2010.

To be assured of consideration, a letter of application, a Curriculum vitae, graduate academic transcripts, and at least three recent letters of reference, should be sent to: Richard Salter, Chair, Department of Computer Science Department Oberlin College Oberlin, Ohio 44074 (email: recruiting@cs.oberlin.edu) by February 20, 2009. Late application materials may be considered until the position is filled. Salary will depend on qualifications and experience.

Pomona College

Visiting Assistant Professor

Department of Computer Science

Pomona College invites applications for a visiting position beginning first semester 2009-2010. The school is particularly interested in candidates who have a Ph.D. in computer science (ABD considered), and be able to teach an ethically diverse student body. Successful candidates will have the ability to teach both upper- and lower-division undergraduate courses in CS.

Pomona, the founding member of the Claremont Colleges consortium, is a highly selective liberal arts college with an enrollment of approximately 1525 undergraduates, and a student/faculty ratio of eight to one. Pomona’s computer Science Department cooperates closely with its counterparts at Harvey Mudd College and Claremont McKenna College, other members of the Claremont Colleges.

Send CV, 3 letters of recommendation (at least one on teaching), and statement of teaching philosophy to: Search Committee Department of Computer Science Pomona College I5 E. Sixth Street Claremont, CA 91711 or preferably by email to search@cs.pomona.edu (plain text or pdf preferred).

Pomona College is an equal opportunity employer that values diversity. Candidates of diverse backgrounds are encouraged to apply.

Multiple Faculty Positions
Quantitative & Computational Biology

Established in August, 2006, the mission of the Battelle Center for Mathematical Medicine (BCMM) is to assemble and support a broad range of mathematical, statistical, and computational experts for the purposes of conducting cutting-edge quantitative research, with the ultimate goal of informing and improving clinical care in pediatrics. Building upon existing expertise in statistical modeling in genetics, parallel computing, computational algorithms, and databases, the BCMM will be undertaking a rapid expansion over the next few years, increasing in both scope and size. Located at The Research Institute at Nationwide Children’s Hospital, an affiliate of Nationwide Children’s Hospital and the Department of Pediatrics of The Ohio State University College of Medicine, the BCMM is seeking to fill multiple open rank tenure track positions. We are looking for candidates who can extend the quantitative and computational technologies of the BCMM in creative ways; who are interested in both basic quantitative research and collaborative biomedical research; and who seek a highly collaborative, research-focused environment. Appointments at the Assistant, Associate, and Full Professor level are anticipated. Candidates are expected to have a Ph.D., or equivalent degree in a statistical, mathematical or computational field, or an M.D. or Ph.D. in a biomedical field with a quantitative or computational research focus. Generous start-up packages are available.

Nationwide Children’s Hospital is the fourth largest free standing children’s hospital in the United States. The Research Institute is housed in a modern 300,000 square foot, dedicated research facility with outstanding shared facilities and core laboratories. Federal grant awards in 2008 will exceed 40 million dollars and total external research awards will exceed $30 million. The Research Institute is equipped with state-of-the-art transgenic, embryonic stem cell, DNA sequencing, embryonic stem cell, DNA sequencing, cryomicroscopy and viral vector core facilities. In addition to appointments in the College of Medicine, joint faculty appointments in graduate departments at The Ohio State University are also available. For more information, please visit our website at www.nationwidechildrens.org/research. Send correspondence, including curriculum vitae and contact information for three references, to Karen Schmidt, Search Coordinator, The Research Institute at Nationwide Children’s Hospital, 700 Children’s Drive, Room JW3914, Columbus, OH 43205, FAX (614) 355-2728, or to Karen.Schmidt@NationwideChildrens.org.
University of Urbana-Champaign
Advanced Digital Sciences Center
Permanent Faculty and Post-Doctoral Fellow Positions

Advanced Digital Sciences Center (ADSC), a partnership of the University of Illinois at Urbana-Champaign, will operate under Illinois at Singapore Pte Ltd., a wholly owned subsidiary of U1 Singapore Research LLC, which in turn is wholly owned by the Board of Trustees of the University of Illinois. Funding is provided by the Agency for Science, Technology, and Research (A*STAR), a Singapore government agency.

Research areas of interest include computer systems, cyber-physical infrastructures, multimedia and human-machine interfaces, trusted information management, and related application areas. Candidates working in interdisciplinary areas related to these fields are strongly encouraged to apply.

With support from A*STAR and space in Singapore, the University of Illinois’ newly opened science and engineering research complex, ADSC, is led by outstanding Illinois Engineering faculty, with Benjamin W. Wah, the Franklin W. and Frances D. O’Hara Professor of Electrical and Computer Engineering and Professor of Computer Science as its director. The center forms a signature project called the Human Sixth Sense Programme (HSSP) that addresses the seamless integration of man, machine and the environment in the digital age. Technology innovations in ADSC will provide many exciting opportunities for new corporate spin-offs and economic development.

Qualifications for permanent faculty: PhD in Electrical Engineering or Computer Engineering or Computer Science or closely related field, outstanding academic credentials and demonstrated excellence in past and current research, and the ability to supervise graduate and undergraduate students, as well as working with post-doctoral fellows and other researchers. A number of post-doctoral fellow positions in the same areas are also sought. Starting date: August 16, 2009. The salary is open, based on qualifications.

To ensure full consideration, applications must be received by March 1, 2009. Interviews may take place during the selection period, but a final decision will not be made until ad closing. Applicants should submit an application at AcademicJobsOnline, include vita, a brief statement of research and career objectives through email to Prof. Benjamin W. Wah, Director, Advanced Digital Sciences Centre 1 Fusionopolis Way #08-10 Connexis (North Tower) Singapore 138632 (wah@illinois.edu). Questions and inquiries can also be sent to the ADSC website "www.adsc.illinois.edu" for more information about the School.

The School is now inviting applications for a Professor / Associate Professor / Assistant Professor in Digital Media. The appointee will be in charge of the Multimedia Innovation Center (MIC) at the School. MIC is an interdisciplinary center dedicated to research, training, teaching, and outreach activities in the areas of Digital Media, Entertainment Technology, and Video Games. MIC’s mission is to advance understanding in the design and development of new products and services in this high-growth area. Drawing from the Center’s interdisciplinary resources, the appointee will be involved in all aspects of initiating and orchestrating the development of the Center.

The appointee will be required to (i) oversee the mission, staffing matters and budget of MIC; (ii) serve as the Master of Science in Multimedia and Entertainment Technology Programme and develop new programmes as opportunities arise; (iii) contribute to teaching the postgraduate and undergraduate levels in the area of Digital Media; (iv) network with other institutes and experts to establish important partnerships, share information, and expand research and outreach efforts; (v) cultivate collaboration with other disciplines, Schools and industry partners to develop new research initiatives; and (vi) provide guidance on the application of multimedia technologies and design principles to education, research, and interdisciplinary projects.

Applicants should have (i) a relevant PhD degree plus at least five years’ teaching or relevant working experience; (ii) a relevant master’s degree plus at least eight years’ teaching or relevant working experiences preferably in university administration and leadership experience in the areas of Multimedia, Entertainment Technology, Digital Media Design or related disciplines; (iii) distinguished research record; (iv) significant research output in the form of publications and other significant and sound background in research and scholarship in Digital Media; (v) qualities of creativity, initiative and leadership; and (vi) commitment to excellence in teaching, research and professional service. Applicants with less experience may be considered for appointment at the level of Assistant Professor.

Interested candidates should submit a letter of intent and their profiles including a list of 3-5 samples of their work in hard copy, CD, or memory stick format with a brief description of the work together with the completed application.

Remuneration and Conditions of Service

Salary offer will be commensurate with qualifications and experience. Initial appointment will be made on a fixed-term, full-time basis, with the possibility of being appointed on a permanent basis at the end of the fixed-term period. The University reserves all rights to alter the terms and conditions of the appointment. Other benefits are available at the University's discretion and include a comprehensive and competitive package. The University reserves the right to fill the post by direct appointment without further advertisement if a suitable candidate is available. Further information on the University's comprehensive benefits package can be found at www.polyu.edu.hk/hr/health.htm.
University of Massachusetts Lowell
Department of Computer Science
Faculty Position at All Ranks

The Computer Science Department at UMass Lowell invites applications for one anticipated tenure-track faculty position to start in September 2009. This rank and tenure status will depend on the qualifications of the successful candidate. We are particularly interested in recruiting an associate professor who has strong research and funding records.

In addition to holding a PhD in computer science or a closely related discipline, and be committed to developing and sustaining an externally funded research program. Preference will be given to outstanding candidates in the areas of data mining and databases, who would also add the ability to teach one of our graduate-level core courses, including algorithms, computing theory, and design of programming languages.

Exceptional senior level candidates in any major computer science research area will be considered. Exceptional candidates are those who have made substantial contributions to research, an excellent teaching reputation, and strong ongoing research projects funded by major US funding agencies.

In addition to helping develop a research program, the successful candidate will be expected to contribute to the collaborative research of the existing departmental groups.

UMass Lowell is located 30 miles north of Boston and has a college town atmosphere. It offers degree programs at the bachelor’s, master’s, and doctoral levels.

The Computer Science faculty received approximately $3.8M in the last two years in external research funding from the NSF, DOD, DOE, and corporations, including two NSF Career awards. For more information about the department please visit http://www.cs.uml.edu.

Applications received by March 1, 2009 will receive full consideration. Women and underrepresented minorities are strongly encouraged to apply.

To apply, please submit a current CV, a research statement, a teaching statement, and names and addresses of at least three letters of recommendation sent directly to iamteam@gmail.com.

Prof. Viktor K. Prasanna and sent by email names and contact information of 3 references. Your best publications. Your CV should

The University of Nevada, Reno
Department of Computer Science and Engineering
Postdoctoral Scholar in Agent Modeling

The University of Nevada, Reno, has an open position for a postdoctoral scholar to work on a grant funded by the National Science Foundation. The position is for a maximum of two years, starting immediately and renewable.

The successful candidate will be expected to conduct research in the area of agent modeling and simulation. The candidate will work closely with the principal investigator and will be expected to publish results in high-quality journals and conferences.

The applicant should have a PhD in computer science or a closely related field, with a strong background in artificial intelligence and agent-based modeling. Knowledge of programming languages, data structures, and algorithms is required.

The position offers a competitive salary and benefits package. Applications are encouraged to apply at their earliest convenience.

For further information, contact:
Postdoctoral Scholar in Agent Modeling
Department of Computer Science and Engineering
University of Nevada, Reno
140-deerfield-drive-rennes
E-mail: iamteam@gmail.com

University of Southern California, Los Angeles
Center for Interactive Smart Oilfield Technologies
Postdoctoral Associate Position

A postdoctoral position in Computer Science/Computer Engineering is available at the University of Southern California, Los Angeles. The Center for Interactive Smart Oilfield Technologies (CiSoit) is a USC-Chevron Center of Excellence for Research and Academic Training on Interactive Smart Oilfield Technologies. Established in December 2003, the Center includes participating research scientists from various department areas in the USC Viterbi School of Engineering and from Chevron.

We are seeking applicants to join our Integrated Asset Management (IAM) project and apply advanced computer science technologies to challenging problems in E&O field oilfield data management and operations.

Successful candidates will have a PhD in Computer Science with a willingness to learn and a strong desire to use computer science technologies to solve complex problems. Research experience in one or more of the following areas is required: semantic web technologies, knowledge management, information integration, metadata management, grid computing, web services and service oriented architectures. Software development experience is also desirable.

The successful candidate will be a highly motivated individual with prior research experience that demonstrates creativity and independent thinking. Knowledge of databases, machine learning, and data mining is also desired. The candidate will work closely with various stakeholders to define tasks, objectives and business needs.

To apply, please send your CV, a brief (1-2 pages) description of your thesis work and related research interests, and two of your best publications. Your CV should include your publication record and the names and contact information of 3 references.

The application must be addressed to Prof. Viktor K. Prasanna and sent by email to iamteam@gmail.com.

For more information:
Prof. Prasanna: http://ceng.usc.edu/~prasanna/
IAM Project: http://groupprjects.usc.edu/
CiSoit Center: http://cios.ucsd.edu/

University of Utah
Jay Lapraue Professorship of Computer Science
Tenure Track or Tenured Faculty Position

The University of Utah’s School of Computing is seeking to hire an outstanding tenure-track or tenured senior faculty member in systems, with a particular emphasis on operating systems, networking, software engineering, or security. This position is named in honor of Jay Lapraue, a professor of Computer Science and Engineering. Candidates for this position should have an established record of leadership and an interest in large-scale systems research. To assist in discharging research and leadership obligations, successful candidates in this position will have a reduced teaching load and an endowment funding package.

This professorship provides an opportunity to work closely with the Flux Research Group, which Jay founded and led. This successful group at the University of Utah and is more than a dozen years old and draws on a decades-long history of strong systems research at Utah. It past and ongoing projects span a range of systems topics including operating systems, networking, security, programming languages, compilers, software engineering, and toolboxes. The group has been a part of research initiatives sponsored by NSF, DARPA and several major companies. One of the group’s ongoing and best-known projects is Emulab, a network testbed with global impact. The Emulab software runs testbeds at dozens of sites, and the installation at Utah, in operation for eight years, is used by thousands of researchers at hundreds of institutions worldwide.

Applicants should have earned a Ph.D. in Computer Science or a closely related field. The University of Utah is located in Salt Lake City, a metropolitan area with excellent cultural facilities and unparalleled opportunities for outdoor recreation, and is about 30 minutes’ drive away. Additional information about the university can be found at http://www.acs.utah.edu. Please send curriculum vitae, a research statement, and names and addresses of at least four references to the Faculty Recruiting Committee s/c Mr. Chris Coleman colemanh@cs.utah.edu.

Applications are accepted until the position is filled. Via email in PDF format. Applications will be evaluated as received and will be considered on a rolling basis. Applicants are encouraged to apply at their earliest convenience.

The University of Utah is an Equal Opportunity/Affirmative Action Employer and encourages nominations and applications from women and minorities, and provides reasonable accommodation to the known disabilities of applicants and employees.

The University of Utah values candidates who have experience working in settings with students and/or diverse backgrounds, and possess a strong commitment to improving access to higher education for historically underrepresented students.

University of Wisconsin-Madison
Computer Science/Computer Engineering
Assistant Professor Position

The Department of Computer Sciences at the University of Wisconsin-Madison has an opening for a tenure-track Assistant Professor, beginning August 2009.

We invite applications from outstanding candidates in all areas of Computer Science, and are especially interested in applications from candidates working in computer-communication or computer architectures. Applicants should have a Ph.D. in computer science or a closely related field, and demonstrated strength in scholarly research. Successful candidates will be expected to teach at the undergraduate and graduate level, in addition to establishing a significant and highly-visible research program.

Applicants should submit a curriculum vitae, a statement of research objectives and sample publications, and arrange to have at least three letters of reference sent directly to the department. Electronic submission of all application materials is preferred (see http://www.cs.wisc.edu/recruiting for details).

To ensure full consideration, applications, along with supporting materials, should be received by March 15, 2009. Early submission is appreciated.

The UW-Madison is an equal opportunity/affirmative action employer and encourages women and minorities to apply. Unless confidentiality is requested in writing, information regarding the applicants must be released on request. Employment may require a criminal background check.

For further information, send emails to recruiting@cs.wisc.edu.

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University of Wisconsin, Madison
Research Center for Diversity in Computing
Portland, Oregon—April 1-4, 2009
Details: http://tapiconference.org/ 2009/

The Faculty of Informatics at the University of Karlsruhe, one of the leading computer science departments in Germany, invites applications for a

Full Professorship with Tenure (W3) for Computer Graphics

The university is seeking an outstanding and innovative researcher from academia or industry. The successful applicant should have excellent qualifications and several years of experience in Computer Graphics, a commitment to teaching and participation in informatics education is expected.

The University of Karlsruhe is an equal opportunities employer and encourages applications from women, minorities, and individuals with disabilities.

Applications including a resume, a list of publications indicating the five most important contributions, and a statement about future research (2 pages) should be sent by 30 March 2009 to the Universität Karlsruhe (TH), Fakultät für Informatik, Am Faßmannweg 5, D-76131 Karlsruhe, Germany: email: dekanat@fkt.uke.de.

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THE UNIVERSITY OF KARLSRUHE
Research University - founded 1825

www.uni-karlsruhe.de