COMPUTING RESEARCH NEWS

A Publication of the Computing Research Association

September 2011 Vol. 23/No. 4

House Appropriators Approve Small Bump to NSF Research in FY12
Congress Passes Debt Deal that Could Cripple Science in FY13

By Peter Harsha

While Congress worked to pass a last-minute debt-limit deal that could spell deep cuts for federal science agencies in FY13, members of the House Appropriations Committee approved legislation in mid-July that would provide a slight increase in research funding at the National Science Foundation in FY12, but cuts to education efforts at the Foundation and other science agencies within the bill.

Members of the Commerce, Justice, Science Appropriations Subcommittee were under a mandate to trim $3 billion from what was a $53 billion bill in FY11. Under this $50 billion cap, the committee had to fund FY12 operations for NSF, the National Aeronautics and Space Administration, National Institute of Standards and Technology, and National Oceanic and Atmospheric Administration, in addition to other programs at the Department of Commerce, Department of Justice and the Census. The committee found cuts in nearly every program in the bill, but did single out NSF's Research and Related Activities account for a $43 million increase.

The committee indicated in the report accompanying the legislation that it provided the increase at NSF despite the heavy cuts elsewhere in the bill because it believed "healthy levels of investment in scientific research are the key to long-term economic growth that exceeds population growth." Within that increase, the committee indicated it expects NSF to prioritize research on cybersecurity, cyber infrastructure, and advanced manufacturing in FY12, and to place an emphasis on neuroscience as well.

Despite the increase, cuts to NSF's Education and Human Resources Directorate (-$26 million compared to FY11) and Major Research Equipment and Facilities account (-$17 million vs. FY11) meant the agency overall received flat funding in the appropriations bill. The committee's approved level falls short by $907 million of the President's requested level for the agency in FY12.

House appropriators also provided a small increase in research funding for NIST's core research programs. NIST's Scientific and Technology Research and Services (STRS) account would see an increase of $30 million in FY12 to $479 million, an increase of about 6.8 percent over FY11 funding. STRS funding still falls well below the President's requested level of $629 million for FY12.

NASA and NOAA both suffered big cuts in the House appropriators' bill. NASA would see agency funding cut by $1.4 billion in FY12, a decrease of 14.3 percent. NASA's Science account was not protected by appropriators, absorbing a $283 million (8.3 percent) reduction to $2.96 billion in FY12. NOAA's research account suffered a similar cut in the bill, down $56 million (8.7 percent) to $584 million in FY12.

Appropriators on the House Energy and Water Subcommittee were equally parsimonious with the Department of Energy's Office of Science budget in FY12. That committee approved a bill in June that would fund the office at $4.4 billion in FY12, a reduction of $47 million or 1.1 percent compared to FY11. That level fell $562 million (or 11.4 percent) short of the President's requested level of $4.94 billion for FY12. The full House approved those levels in July.

Despite the disappointing funding levels for federal investments in science, members of the Appropriations Committee claim to remain fully committed to federal support for research and development. In the report

House Appropriators - Continued on Page 10

Inside CRN

Note to Department Chairs

Taulbee Survey 2010-11
Coming Soon!

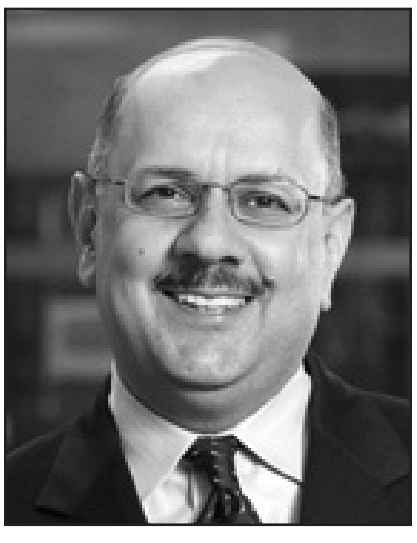
If you have a new chair, please advise membership@cra.org to ensure the survey is properly addressed.

NONPROFIT ORG.
U.S. POSTAGE
PAID
WASHINGTON, DC
PERMIT NO. 993

CRA
1828 L Street, NW
Suite 800
Washington, DC 20036

National Robotics Initiative: *A National Partnership to Advance U.S. Leadership in Robotics*

By Farnam Jahanian



In a speech on U.S. innovation and competitiveness at Carnegie Mellon University in late June[1], President Obama announced a new initiative with investments up to $50 million for major advances in next-generation robotics, called the National Robotics Initiative (NRI; www.nsf.gov/NRI). The National Science Foundation's (NSF) Directorate for Computer and Information Science and Engineering (CISE), together with the Directorates for Engineering; Education and Human Resources; and Social, Behavioral, and Economic Sciences, will play a leading role in this cross-agency program that also includes the National Aeronautics and Space Administration (NASA), the National Institutes of Health (NIH), and the U.S. Department of Agriculture (USDA).

The goal of the NRI is to accelerate the development and use of *co-robots,* robotic systems and devices that work cooperatively as partners with, or beside, people. Examples include the co-worker in manufacturing, the co-defender in civilian and military venues, and the co-inhabitant assistant in the home of an elder living independently. The science of developing co-robots will require pushing beyond state-of-the-art robotics. The NRI not only will invest in the fundamental research necessary for next-generation robotics, but will also advance the capability and usability of such systems and artifacts and will encourage existing and new research communities to focus on innovative application areas.

The social, behavioral, and economic sciences are essential in addressing the most important and challenging problems in producing human-assisting robots. Research to better understand the symbiotic relationship between humans and machines is required to optimize the workforce productivity gains envisioned with the use of co-robots.

The computing community played a critical role in contributing to the formulation of this initiative through its work on two key reports. The first, *A Roadmap for U.S. Robotics–From Internet to Robotics*[2], was developed by more than 100 experts from industry and academia as part of the Computing Community Consortium's (CCC) visioning exercise on robotics[3]. The second report released by the President's Council of Advisors on Science and Technology (PCAST), *Designing a Digital Future: Federally Funded Research and Development in Networking and Information Technology*[4], predicts that the impact of R&D in

National Robotics Initiative - Continued on Page 7

Computing Research Association

Board Officers

Eric Grimson
Chair
Massachusetts Institute of Technology

Laura Haas
Vice Chair
IBM Almaden Research Center

Martha E. Pollack
Secretary
University of Michigan

Ronald Brachman
Treasurer
Yahoo!

Board Members

Sarita Adve
University of Illinois, Urbana-Champaign

Annie I. Antón
North Carolina State University

William Aspray
University of Texas at Austin

Carla Brodley
Tufts University

Alva Couch
Tufts University

Mary Czerwinski
Microsoft Research

Susan B. Davidson
University of Pennsylvania

Mary Fernández
AT&T Labs Research

Limor Fix
Intel

Edward Fox
Virginia Tech

Brent T. Hailpern
IBM Thomas J. Watson Research Center

Mary Jean Harrold
Georgia Institute of Technology

H.V. Jagadish
University of Michigan

Norman Jouppi
Hewlett Packard

Rangachar Kasturi
University of South Florida

James Kurose
University of Massachusetts

Margaret Martonosi
Princeton University

J Strother Moore
University of Texas at Austin

Peter Norvig
Google

David Notkin
University of Washington

M. Tamer Özsu
University of Waterloo

Jane Prey
Microsoft Research

Fred B. Schneider
Cornell University

Robert Schreiber
Hewlett Packard

Valerie Taylor
Texas A&M University

Jonathan Turner
Washington University at St. Louis

Jeannette M. Wing
Carnegie Mellon University

Ellen W. Zegura
Georgia Institute of Technology

Executive Director
Andrew Bernat

CRN Editor
Jean Smith

Affiliate Societies

Expanding the Pipeline

Reflections on the 2011 Richard Tapia Celebration of Diversity in Computing Conference

By David Patterson

The goal of the Tapia conferences[1] is to bring together undergraduate and graduate students, professionals, and faculty in CS&E from all backgrounds and ethnicities to: 1) Celebrate the diversity that currently exists in CS&E; 2) Create communities of CS&E people with diverse backgrounds, genders, and ethnicities that extend beyond the conference; 3) Receive advice from and make useful contacts with CS&E leaders in academia and industry; and 4) Be inspired by great presentations and conversations with successful people in CS&E who have similar backgrounds, ethnicities, and gender as the attendees. Thus, invited speakers, graduate students, and undergraduates present inspiring research results in talks, workshops, and poster sessions and get career advice in panel sessions and unstructured conversations.

For the ten-year anniversary, the organizers brought me in as a new general chair to take a fresh look at the conference, which was held April 3 to 5, 2011 in San Francisco. Two themes highlight the 2011 Tapia Conference: celebration and diversity. The conference celebrated the technical contributions and career interests of diverse people in diverse computing fields, with an emphasis on inspiring students from diverse communities to continue their education in computing.

Tapia 2011 tried a different format from the past, based in large part on surveys of past attendees. In fact, Tapia 2011 turned out to an experiment in using modern, Internet-based collaboration tools to collect data and drive the conference. Difficult decisions relied on polls of previous Tapia's attendees using online survey services like Survey Monkey or Google Forms. Unsurprisingly, we found that it was much easier and more likely to be correct when people were asked, versus trying to guess what people would like. Based on the success of Tapia 2011, I recommend that all conference organizers use online surveys of attendees to plan their events.

A Unique Conference: The Most Diverse in Computing

It is striking how diverse Tapia is compared to all other conferences (see photo below). Sticking to form, we use the final survey (completed by 73% of attendees) to supply quantitative evaluation of the conference. First the data:

Demographic: Gender?	
Female	57%
Male	43%

Demographic: Hispanic?	
Yes	28%
No	72%

Demographic: Race/ Ethnicity?	
African American/Black	35%
Mexican American, Other Latin American	19%
Caucasian/European/ White	26%
American Indian or Alaskan Native	1%
Native Hawaiian or Pacific Islander	0%
Asian Indian	2%
Other Asian (Chinese, Korean, Filipino, Vietnamese, Japanese, other)	9%
Middle Eastern	2%
Another race or ethnicity	4%

Clearly, the makeup of most research conferences is very different from the statistics above. Furthermore, for conferences that focus on a specific under-represented group, it is usually the case that 90% to 95% of the attendees are from the target group. Ironically, even if the ethnic or gender makeup is very different, they are no more diverse than other CS conferences.

I believe the diversity is one reason Tapia was so popular. If you believe in diversity, there is no better conference!

Richard Tapia (center, back) next to the author and part of the UC Berkeley brigade.[2]

An Unqualified Success

By all measures Tapia 2011 was a success. Attendance set a record of 517, one-third larger than last time. In fact, we had to close registration the week before the conference because we couldn't fit any more people into the meeting room. We might have shot past 550 without the cutoff.

A sample of the responses to the survey supports the finding that the conference was effective as well as popular:

- Of those who have attended past Tapia conferences, 70% strongly or slightly prefer Tapia 2011.
- 93% are very likely or somewhat likely to attend Tapia 2013.
- 97% are very satisfied or somewhat satisfied with Tapia 2011.
- 98% are very likely or somewhat likely to recommend Tapia to a colleague or peer.

According to the students—who were 75% of all attendees, evenly split between undergraduates and grad students—Tapia 2011 met our greater goals:

- 86% agreed or strongly agreed that attending Tapia 2011 increased their dedication to completing their degree.
- 98% agreed or strongly agreed that they are confident that they will complete their degrees.

We also set a fund-raising record with nearly $300,000 in support of the conference, thanks to the efforts of our fund-raising chair Cynthia Lanius of Rice and to the sage advice of Telle Whitney of the Anita Borg Institute. The top 10 supporters were NSF, Google, Intel, Cisco, Microsoft, NetApp, IBM, Symantec, LLNL, and Oracle. The following Gold academic supporters sent 10 or more non-scholarship students:

UC Berkeley (42 attendees total), Rice (26), Georgia Tech (23), UT Austin (20), Texas A&M (17), Cal State University Stanislaus (12), and Virginia Tech (10).

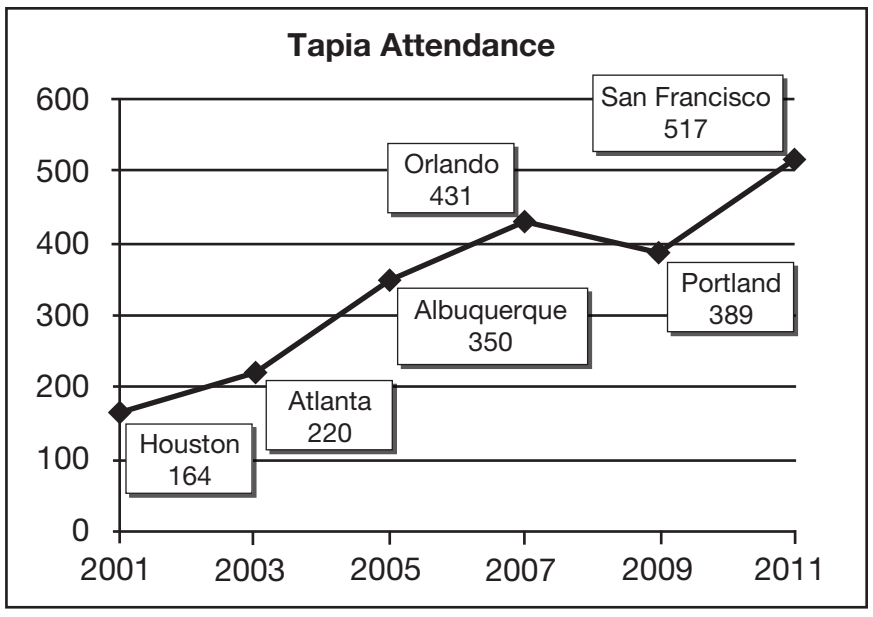
Another sign of success of Tapia 2011 is that 38 professional attendees and 130 student attendees volunteered to help with future Tapia conferences.

Connections: The Tapia 2011 Experiments Worked

The theme of Tapia 2011 was "Connections," in that we are all connected together no matter how we appear or where we currently live, much more than you might expect. I demonstrated such connections in the opening session by talking about the parallels between the lives of Richard Tapia and myself:

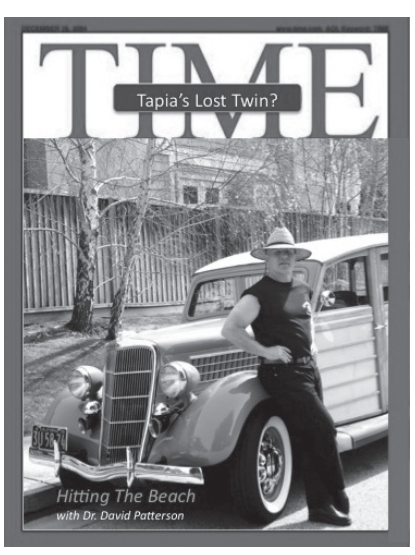
- Both grew up in Torrance, California in homes that were three miles apart.
- We are both the first-born sons of large, church-going families.

Expanding the Pipeline from Page 2



The 10% drop in Portland was followed by a 33% increase in San Francisco.

- We both attended nearby local high schools and community colleges before graduating from UCLA with bachelor's degrees in mathematics.
- We both got married and had children while undergraduates, went to grad school with families, and named our first sons after ourselves.
- Both of us got our PhDs from UCLA before joining academia, where we later chaired our departments.
- Both were elected to the National Academy of Engineering, one year apart.
- Honoring our Southern California roots, we both collect and renovate old cars. The opening presentation showed magazine covers with two of our cars: a 1957 Chevy sedan and a 1935 Ford station wagon. (Note: One cover is fake.)



The connection theme carried through new events for 2011. Eight of the ten top-rated events were tried for the first time at Tapia 2011. These innovations included:

- An afternoon activity break outside conference on Day 2 to help attendees make connections, to let everyone's batteries recharge, and to encourage attendance at the rest of the conference, ably organized by Roxana Infante and Tammy Johnson of UC Berkeley.
- An extended lunch to connect with interesting Bay Area people invited to meet attendees, which Ellen Spertus of Mills College led with aplomb.
- Multiple tracks for the popular Doctoral Consortium so that more PhD students could receive advice and make connections with an expert panel and other PhD students, smoothly chaired by Anthony Joseph of UC Berkeley and Juan Vargas of Microsoft.
- A student opportunity poster session where students could get to know companies and individual research projects that had opportunities for students, which NSF's Jose Munoz successfully organized.
- An optional visit on the day after the conference to nearby institutions including Google, LBNL, LLNL, and UC Berkeley, to make connections outside the conference.

Including a larger number of invited speakers for Tapia 2011 was also popular: Blaise Agüera y Arcas (Microsoft), Deborah Estrin (UCLA), Alan Eustace (Google), Illya Hicks (Rice), Ayanna Howard (Georgia Tech), John Kubiatowicz (UC Berkeley), Patty Lopez (Intel), and Irving Wladawsky-Berger (IBM retired).

See You in 2013 (and Shortly Thereafter)

A final indication of the success of Tapia 2011 is that CDC plans to make Tapia an annual event starting in 2013. Based on survey feedback, the next Tapia will be moved to late February so that students can apply for internships with companies at Tapia. This feedback also suggested that a Friday-Sunday conference would be a lot easier for students to attend, so the next conference will likely be held some weekend in February 2013. Watch this space for the final dates and location.

Tapia 2011 wouldn't have happened or been as successful without the hard work of a lot of volunteers and the financial support of a lot of organizations. I'd like to thank everyone, but especially those mentioned earlier as well as:

- Juan Vargas (Microsoft), who was my vice chair (and is chair for Tapia 2013).
- Cynthia Lanius (Rice), who chaired the record-breaking fund-raising effort.
- Hal Marz (Google) and Ryan Hundley (Google), who handled the substantial challenges of local arrangements.
- Jamika Burge (Penn State) and Tiki Suarez-Brown (Florida A&M), who served as Scholarships Chairs for hundreds of applicants.
- Tony Baylis (LLNL), who ran registration for a surprisingly large conference.
- Jon Bashor (LBNL), who ran publicity and made us all sound eloquent.
- Tony Drummond (LBNL), who led the student research poster session.
- Phoebe Lenear (Illinois) and Josef Sifuentes (NYU), who organized the popular banquet.
- Manuel Perez Quiñones (Virginia Tech), who represented CDC.
- Richard Tapia (Rice) and Valerie Taylor (Texas A&M) for inviting me to chair the conference; it turned out to be a much bigger and more demanding venture than any of us expected! ∎

David Patterson *is Director of the Parallel Computing Laboratory and the Pardee Professor of Computer Science at UC Berkeley. He is a former chair and member of the Computing Research Association's Board of Directors.*

Notes:
[1]Tapia Conferences are organized by the Coalition to Diversify Computing (CDC) and sponsored by ACM in cooperation with CRA and the IEEE Computer Society.
[2]UC Berkeley sent 42 people to the conference, the most of any institution. In fact, Berkeley and Stanford combined sent 42 people.

Two New Members Join the CRA Board

CRA is pleased to welcome **Peter Norvig** (Google) and **Limor Fix** (Intel) as members of its Board of Directors. They will serve as industry lab representatives, completing the terms of two board members who resigned when they moved to non-industry positions.

Peter Norvig is Director of Research at Google Inc. He is a Fellow of the AAAI and the ACM and co-author of *Artificial Intelligence: A Modern Approach*, the leading textbook in the field. Previously Dr. Norvig was head of Computational Sciences at NASA and a faculty member at USC and Berkeley.

Limor Fix is Director of Academic Programs & Research at Intel Labs Hillsboro, and an Intel Senior Principal Engineer. She has a Ph.D. in Computer Science from the Technion in Israel, where she joined Intel in 1994. Prior to moving to Intel Labs Hillsboro, Dr. Fix served as Director of Intel Research Pittsburgh. In June, she received the 12th annual Marie R. Pistilli Women in Electronic Design Automation (EDA) Achievement Award at the Design Automation Conference. ∎

Jeannette Wing Receives CRA Distinguished Service Award

Jeannette Wing, Professor and Head of the Department of Computer Science, Carnegie Mellon University, was selected to receive the CRA Distinguished Service Award 2011. The award was presented by Ed Lazowska, University of Washington, at ACM's Annual Awards Banquet in San Diego in June.

Interesting Times as CRA Approaches 40

By Andy Bernat, Executive Director

Welcome to the 39th year of the Computing Research Association! And for our academic members, welcome to a new academic year. For those of you fortunate enough to not have been reading national news or watching your retirement portfolio, this last year has been quite the wild ride in Washington, DC, home to CRA World Headquarters.

There's a lot going on at CRA so my purpose here is to update you on CRA's efforts and activities on behalf of the computing research community. As always, I suggest that you monitor our two main information conduits: CRA Policy Blog http://cra.org/blog and the Computing Community Consortium blog http://cccblog.org. We can also be found at computingresearch on Facebook, @CRAtweets on Twitter and through our YouTube channel computingresearch.

The CRA Board's most recent semi-annual meeting was held in San Francisco in mid-July with a focus on several topics of wide interest to our community. The summer meeting is typically the one in which we look towards the future, whereas the winter meeting often is focused more on the nuts and bolts of operation. This July, as I will describe in detail below, the Board looked in particular at two issues directly related to the health of the computing research community and two issues focused on how CRA can best support the community.

CRA's main mission continues to be to ensure the health of the computing research enterprise (in North America specifically) so we are always thinking about the big issues. Computing is a relatively modern discipline, without overly entrenched traditions and cultures but also one in which traditions and cultures have developed very quickly due to the explosive growth of the field. Thus one very high-level question that was a focus of discussion at the July Board meeting is: Are the culture and traditions of computing research optimal for moving forward?

CRA and others have been exploring this question via a range of approaches for some time now — see "Computing Outside the Box" http://archive.cra.org/CRN/articles/jan09/boldly_exploring.html; Snowbird 2010 "Peer Review in Computing Research"; Snowbird 2008 "Paper and Proposal Reviews" Is the Process Flawed?" as well as a number of articles and posts by many other concerned researchers in, for example, CACM, on related topics. I take care to emphasize that computing research has been phenomenally successful with contributions and impacts that boggle the mind so exploring these issues comes not from a hand-wringing perspective, but from a "let's make sure we've got it completely right" perspective.

There are a number of issues we could be addressing (your list may certainly vary): our emphasis on conference publishing; our large number of specialty conferences and concomitant lack of a computing-wide uber-conference; a concern that short-term gains are being emphasized to the detriment of long-range innovations in our research; a concern that funding panels and conference/journal reviewers are not doing the job we need them to do; a concern that our tenure and promotion guidelines discourage the kind of research that should be going on; and a concern that our community, given our importance, is not sufficiently engaged in the broader science policy space. Plans are afoot at CRA to develop a comprehensive approach to exploring issues related to the field as a whole—stay tuned for more information.

One growing piece of the computing research enterprise is postdoctoral research. Late last fall, CRA pulled together an ad hoc committee, led by Anita Jones, to explore the issue of how the contribution of postdocs is of maximal value to the community, which most definitely includes the postdocs themselves. CRA had already entered this conversation through the Computing Innovation Fellows (CIFellows) Project established by CCC and funded by NSF. The committee developed a white paper which was posted online (http://cra.org/postdocs) and responses were solicited from the community. A number of thoughtful comments were posted and a number of conversations were begun.

This is an important topic: according to Taulbee data, there are currently as many postdoc positions open as for tenure-track faculty—an enormous change in just a few years. Is computing going the way of other sciences wherein multiple postdocs create a large holding pattern for researchers? This pattern can be highly discouraging and disruptive. And, given that postdocs are an increasing piece of the computing research community, what can we do to ensure that the postdoc experience is productive for all parties, but particularly for the postdoc? Please continue to provide your thoughts as we continue to explore the role and care of postdocs.

In what was obviously a packed Board meeting agenda, the Board also focused on CRA's Taulbee Survey, which remains a pillar of CRA's activities on behalf of the community. Taulbee is entering its 37th year of soliciting, and providing, information on the production and employment of computing researchers. Over the years, Taulbee has been expanded to include the production of computing students at all levels, salary and demographic data for faculty, and gender and ethnicity breakdowns. We are always aware there is much additional data that people would find useful, while simultaneously trying not to overburden our departments with even more extensive requests. And historical trends are of considerable interest so we are careful about making changes.

But it's a good idea to periodically reevaluate what we do ask for and collect against what we should ask for and collect. This is particularly true this year because we have a "seismic" event to deal with. Recall that we have been publicly reporting Taulbee data in groupings based on the 1995 NRC rankings of PhD programs. We are all well aware that these rankings are only vaguely related to what people would consider reasonable rankings of programs in mid-2011, but they have had the virtue of consistency. And, since the NRC announced in the early 2000s that it would be providing revised and more current rankings, we have held off modifying our reporting scheme. But the NRC botched the job, both in terms of what data they collected, how they collected it, and how they computed rankings from these data (see CRA Statement on NRC Ranking of Graduate Programs at www.cra.org)—and we simply cannot use the NRC results. Some folks suggested using the *US News & Word Report* data, but there are considerable issues with that approach as well.

CRA's Taulbee Survey Committee, under the leadership of Stu Zweben (Ohio State), long-time Taulbee maven, tackled this issue. The first thought was to ask each survey participant to list its peers and to form reporting groups based on these self-selected peer groups. Even with the tools of our trade, this approach failed because the resulting groupings were not tightly bound. But, by looking at a variety of factors, the committee was able to develop a stable set of groups based on institution type (public or private) and faculty size—with an additional grouping based on the urbanization status for salary information. In order to assure a smooth transition, data from five prior years will be brought into this new reporting structure and provided as well.

The committee explored one more mechanism to provide additional value to our members: those departments participating in the survey will be able to provide CRA with a self-selected peer group and will receive a customized report showing their department in comparison to their peers. We are still working on the privacy and resource issues involved with this effort so stay tuned for more details.

The fourth area that the Board explored was the status and focus of our relatively new committee on education—CRA-E. When originally conceived, CRA-E was intended to provide a focus for computing researchers' interests in, and activities in support of, undergraduate computing education. The original mission statement was quite broad, certainly too broad for an organization of (very) finite resources such as CRA, and it overlapped too much with activities already underway at our member societies. So the first activity of CRA-E, under the leadership of Andy van Dam (Brown), was a targeted effort, "Creating Environments for Computational Researcher Education," (http://www.cra.org/uploads/documents/resources/rissues/CRA-E-Researcher-Education.pdf) and a session at Snowbird 2010, "CRA-E Report on Basic Computing Knowledge" (http://www.cra.org//uploads/documents/events/snowbird/2010slides/CRA-E-Snowbird-AVD.pdf). Note the emphasis on "research"; this is what CRA-E can bring to the table.

CRA-E, with new leadership provided by Charles Isbell (Georgia Tech) and Ran Libeskind-Hadas (Harvey Mudd College), will be continuing this approach by focusing on the health of the research pipeline in order to support interventions that improve the pipeline's health. In particular, the idea is to focus on interventions that improve the quality of the pipeline rather than its numbers, and that are not already well covered by other efforts. As an example, CRA-E is seeking to answer the following kinds of questions: Where do our graduate students come from? Are there particularly successful institutions or programs that encourage the best and brightest students to pursue a career in computing research? If so, what can we learn from them?

In addition to these topic areas, there remain CRA's core areas of ensuring that computing research is well-funded and well-supported by our society. It has an overwhelming impact on the quality and health of that society at all levels and ensures that the flow of highest-quality computing researchers continues.

I'll close with some staff notes. Patrick Krason has decided to leave the world of invoicing and member renewals for a position in a law firm dealing with compliance issues. Sandra Corbett has stepped into his shoes. And Carla Romero, CRA's Director of Programs over the past nine years, has decided to return home to the sunny Southwest by the end of 2011. We are currently in the process of hiring a staff member to work with our committees to ensure that the many programs directed particularly towards diversity are well handled.

These are indeed interesting times. And CRA is both well placed and energized to work on the issues that will keep computing research and its people vital. So be sure to monitor, subscribe, like or follow us. Or good old-fashioned email to abernat@cra.org. ▮

CCC: We Want You Involved – And Here's How

By Erwin P. Gianchandani

Computing Community Consortium

The Computing Community Consortium (CCC), which will enter its fifth year later this fall, remains focused on **catalyzing and empowering the computing research community to pursue more audacious research, all the while attracting bright young talent and fostering development of the next generation of leaders.**

To achieve its goals, the CCC relies heavily on the participation of the broader research community. Here are ***five things you can do today*** to become involved in this effort (listed in order from least to most time-intensive):

- **Submit a "highlight" describing your most recent exciting research result.** Each week, the CCC features a "Computing Research Highlight of the Week," showcasing an interesting research finding. These highlights are culled from submissions from members of the research community. If you have a research result that you would like to disseminate, submit your Highlight here: http://cra.org/ccc/submitrh. Press releases by your lab, department, or university press office are welcome!
- **Help us get the word out about fundamental computing research challenges in areas of national priority.** The CCC has developed a set of brochures—based on white papers prepared by the research community[1]—that are intended to appeal to a broad audience, to include students, faculty, colleagues in other fields, policy makers, and the public at large: http://www.cccblog.org/2011/07/22/describing-computing-research-challenges/. The goal of these brochures is two-fold: to inspire and excite computer scientists to pursue challenges at the intersection of computing and healthcare, sustainability, education, and other areas, and to communicate widely the value of computing research in our everyday lives. Please help us circulate these brochures throughout your labs, classrooms, departments, and beyond.
- **Put together a short video describing exciting computing research that encourages undergraduates to pursue computer science.** Many undergraduates lack a clear understanding of computing research; often they believe it involves writing really large, complicated, even cumbersome, programs. The CCC is assimilating a collection of short videos that provide undergraduates with concrete, compelling examples of current research in computer science—described in ways that inspire and engage them. A video can be as short as one minute or as long as five minutes. The CCC will fund up to $1,000 to cover expenses (e.g., time for one or more graduate students to make a video). For the full solicitation, visit: http://www.cra.org/ccc/csfrontiers. And be sure to check out the first video, called *Exploring Photobios,* which was recently aired by a local TV news station: http://www.cccblog.org/2011/06/14/your-cool-research-videos-exploring-photobios/.
- **Run a special track exploring out-of-the-box research ideas at an upcoming conference or meeting you are organizing.** The CCC is sponsoring an initiative to bring "Challenges and Visions" tracks to computer science research conferences. The goal of this initiative is to help conferences extend beyond the usual research papers that describe completed work and to seek out papers that present ideas and visions that may stimulate the research community to pursue entirely new directions. The CCC is providing prize money to the top three papers in each track (first prize $1,000, second prize $750, and third prize $500, to be awarded as travel grants). For more information, including a list of past Challenges and Visions tracks, visit: http://cra.org/ccc/vct.
- **Propose a community-visioning activity that brings together members of your research community to coalesce around specific research visions.** The CCC has a standing RFP—http://cra.org/ccc/vision—for activities with the potential to excite the computing research community, grow funding, and encourage broader segments of society to participate in computing research and education. Over a dozen such community- (PI-) led "visioning activities" have been supported in the past four years, and some of these are now resulting in Federally funded programs. For example, an effort to envision robotics R&D[2] resulted in a definitive report, *A Roadmap for U.S. Robotics—From Internet to Robotics,*[3] developed by more than 100 robotics experts from industry and academia. As the National Science Foundation's Assistant Director for Computer and Information Science and Engineering, Farnam Jahanian describes in a separate article elsewhere in this issue of *CRN*, this report was the basis for the Administration's recent announcement of a brand new, multi-agency, $70 million National Robotics Initiative.[4]

These are just a few of the many activities the CCC is pursuing today. For more details about any of these, or for other efforts, visit our website: http://cra.org/ccc/. We hope to see you involved soon! ▮

Dr. Erwin Gianchandani *is the Director of the Computing Community Consortium (CCC) and the Computing Innovation Fellows Project within CRA [E-mail: erwin@cra.org; Phone: (202) 266-2936; Fax: (202) 667-1066].*

Notes:

[1] http://cra.org/ccc/initiatives.
[2] http://cra.org/ccc/robotics.
[3] http://www.us-robotics.us.
[4] http://www.cccblog.org/2011/06/24/robotics-research-a-pillar-of-new-500m-advanced-manufacturing-partnership/.

New Board Members

CRA was pleased to welcome new members to their first board meeting on July 25 in San Francisco. Shown above (L to R): **Brent Hailpern** (IBM Thomas J. Watson Research Center); **Jeannette Wing** (Carnegie Mellon University); Board Chair **Eric Grimson** (MIT); **Susan Davidson** (University of Pennsylvania): **Mary Czerwinski** (Microsoft Research); **Peter Norvig** (Google); and **Limor Fix** (Intel). Missing is **Ellen Zegura** (Georgia Tech) who was unable to attend the meeting.

CRA Award for Outstanding Undergraduate Researchers 2012

Nominations Due October 14, 2011

The Computing Research Association is pleased to announce the 18th annual CRA Award for Outstanding Undergraduate Researchers, which recognizes undergraduate students in North American universities who show outstanding research potential in an area of computing research.

Eligible nominees are enrolled as undergraduates in a North American college or university throughout the academic year September 2011 to May 2012. They must be nominated by two faculty members and recommended by the chair of their home department. No more than two male and two female candidates can be recommended by the same department chair in the same year.

The awards committee looks for demonstrated excellence of computing research ability. The type of department in which the student is majoring and the area of computing in which the student has demonstrated ability are immaterial. What is important is the quality of the research work done by the student. The awards committee also considers the student's academic record and service to the community. Preference is given to students in their senior year (or the equivalent).

A cash prize of $1,000 will be awarded to each of two undergraduate student researchers, one female and one male. A small number of other outstanding candidates will be recognized as Runners-Up and Finalists. All nominees whose research work is considered to be exemplary are recognized with Honorable Mentions.

The awards will be presented at one of the major computing research conferences sponsored by CRA, ACM, the IEEE Computer Society, SIAM, AAAI, or USENIX. The two first-prize winners will receive financial assistance from CRA to travel to the conference. CRA will also sponsor a departmental reception for the two winners at their home institutions.

CRA gratefully acknowledges the support of Mitsubishi Electric Research Labs (MERL) and Microsoft Research who sponsor the Award in alternate years. MERL is the 2012 sponsor.

Additional information about the nomination procedure and criteria for selection are posted on the CRA website: http://www.cra.org. All nominations must reach CRA by **October 14, 2011.** ▮

December 16 Deadline for CRA Service Award Nominations

The Computing Research Association invites nominations for the CRA Distinguished Service Award and the A. Nico Habermann Award for 2012.

Distinguished Service Award

CRA makes an award, usually annually, to a person who has made an outstanding service contribution to the computing research community. This award recognizes service in the areas of government affairs, professional societies, publications or conferences, and leadership that has a major impact on computing research.

See "Guidelines for Nominators" at: http://www.cra.org/Activities/awards/service/guidelines.html

A. Nico Habermann Award

CRA makes an award, usually annually, to a person who has made outstanding contributions aimed at increasing the numbers and/or successes of underrepresented groups in the computing research community. This award recognizes work in areas of government affairs, educational programs, professional societies, public awareness, and leadership that has a major impact on advancing these groups in the computing research community. Recognized contributions can be focused directly at the research level or at its immediate precursors, namely students at the undergraduate or graduate levels. See "Guidelines for Nominators" at: http://www.cra.org/Activities/awards/habermann/guidelines.html

For a list of previous recipients of these two awards, see: http://www.cra.org/main/cra.awards.html

Nomination Process

Send a nomination letter (no longer than *two pages*) that *describes the contributions* on which the nomination is based to **awards@cra.org**. Refer to the appropriate "Guidelines for Nominators" for the award. Include the candidate's current curriculum vitae. Questions or comments may be addressed to awards@cra.org.

Nominators are responsible for collating the nomination materials ***before e-mailing the complete package to:*** awards@cra.org. The deadline for receipt of nominations is December 16, 2011.

Current members of the CRA Board of Directors (http://www.cra.org/main/cra.people.board.html) are not eligible for these awards. ∎

The computing research community thanks the following non-board members and former board members who served on CRA committees in 2010-11.

Nancy Amato (Texas A&M University)
Cecilia Aragon (University of Washington)
Owen Astrachan (Duke University)
Jon Bashor (Lawrence Berkeley National Laboratory)
Wayne Bennett (ECEDHA)
M. Brian Blake (Notre Dame University)
Peter Bloniarz (University of Albany)
Aaron Bobick (Georgia Institute of Technology)
Randy Bryant** (Carnegie Mellon University)
Jamika Burge (BAE Systems)
Tracy Camp (Colorado School of Mines)
Sheila Castañeda (Clarke College)
John Cavazos (University of Delaware)
Allison Clarke (University of Illinois, Urbana-Champaign
Lori Clarke** (University of Massachusetts)
Joanne Cohoon (University of Virginia)
Anne Condon** (University of British Columbia)
Deborah Crawford (Drexel University)
Dona Crawford (Lawrence Livermore National Labs)
George Cybenko** (Dartmouth College)
Jeff Hollingsworth** (University of Maryland)
Dilma da Silva (IBM Research)
Andrea Danyluk (Williams College)
Sandhya Dwarkadas (University of Rochester)
Ron Eglash (Rensselaer Polytechnic Institute)
Carla Ellis** (Duke University)
Jim Foley** (Georgia Institute of Technology)
Jeffrey Forbes (Duke University)
Stephanie Forrest (University of New Mexico)
Lance Fortnow (Northwestern University)
Juan Gilbert (Clemson University)
Maria Gini (University of Minnesota)
Susan Graham (UC Berkeley)
Gregory Hager (Johns Hopkins University)
Julia B. Hirschberg (Columbia University)
Jim Horning** (Advanced Elemental Technologies Inc.)
Eric Horvitz (Microsoft Research)
Mary Jane Irwin** (Penn State University)
Charles Isbell (Georgia Institute of Technology)
Chad Jenkins (Brown University)
Chris Johnson (University of Utah)
Anita Jones (University of Virginia)
M. Frans Kaashoek (MIT)
David Kaeli (Northeastern University)
Robert Kahn** (CNRI)
Sid Karin** (UC San Diego)
Dick Karp (UC Berkeley)
Randy Katz** (UC Berkeley)
Hank Korth (Lehigh University)
John King** (University of Michigan)
Cynthia Lanius (El Alliance)
Ronald Larsen (University of Pittsburgh)
Tessa Lau (IBM)
Ed Lazowska** (University of Washington)
Gary Leavens (University of Central Florida)
Peter Lee** (Microsoft Research)
Anna Lubiw (University of Waterloo)
George Markowsky (University of Maine)
Rose Marra (University of Missouri, Columbia)
Brandeis Marshall (Purdue University)
Andrew McCallum (University of Massachusetts)
Kathryn McKinley (University of Texas, Austin)
Ron Metoyer (Oregon State University)
John Mitchell (Stanford University)
Linda Morales (University of Texas, Dallas)
Gail Murphy (University of British Columbia)
Robin Murphy (Texas A&M University)
Beth Mynatt (Georgia Institute of Technology)
Manuel Perez-Quiñones (Virginia Tech)
Lori Pollock (University of Delaware)
Ann Redelfs (Independent Consultant)
Dan Reed** (Microsoft Research)
Debra Richardson (UC Irvine)
Susan Rodger (Duke University)
Rodrigo Romero (University of Texas, El Paso)
Bobby Schnabel** (Indiana University)
Margo Seltzer (Harvard University)
David E. Shaw (D.E. Shaw Research)
Mary Lou Soffa** (University of Virginia)
Eugene Spafford** (Purdue University)
Marc Snir** (University of Illinois, Urbana-Champaign)
Bob Sproull** (Oracle)
Lynn Andrea Stein (Olin College)
Chris Stone (Harvey Mudd College)
David Tennenhouse** (New Venture Partners LLC)
Tiki Suarez-Brown (Florida A&M University)
Josep Torrellas (University of Illinois, Urbana-Champaign)
Andy van Dam** (Brown University)
Manuela Veloso (Carnegie Mellon University)
Jeffrey Vitter** (University of Kansas)
David Waltz** (Columbia University)
Elaine Weyuker** (AT&T)
Pamela Williams (Sandia National Laboratories)
Dale Marie Wilson (University of North Carolina)
Margaret Wright (New York University)
Bryant York** (Portland State University)
Stuart Zweben** (Ohio State University)

***Former CRA board members*

CRA Career Mentoring Workshop

for New Faculty and Advanced Graduate Students in Computing-Related Disciplines

February 27-28, 2012,
in Washington, DC

Details: http://www.cra.org

Chairs of CRA Member Departments *and* **Directors of CRA Member Labs/ Centers**

Celebrate CRA's 40th Anniversary

CRA CONFERENCE AT SNOWBIRD 2012

Snowbird Resort, Utah
July 22-24, 2012

Mark Your Calendars Now
Plan to Attend

IT History Society—An IT Teaching and Research Resource

By Jeffery D. Stein, Chairman, IT History Society

Formed in 2007, the IT History Society is dedicated to informing IT companies about the value in preserving their history, helping archivists to be more effective in their work in preserving IT history and, most importantly, being a reference point for the many international places of computing history information.

The Society wants to assist educators, students of information technology, and researchers in learning more about the history and background of the information technology industry, an industry that has had a significant effect on mankind in the past seven decades.

It has nearly 700 international institutional and individual members (no charge to be a member). Institutional members include IBM, HP, Intel, the Smithsonian Institution, Computer History Museum, Charles Babbage Institute, MIT, Caltech, Hans Nixdorf Museum, British Library, Stanford Silicon Valley Museum, Deutsches Museum, IEEE History Center, UK National Archive, Hagley Museum, and more. Individual members include historians, computer scientists, and people who have worked in the industry from various countries.

Currently the Society has many online databases; but two, in particular, may be of great value for teaching information technology and research:

1. ***IT Historical Resource Sites Database***—over 400 and growing every day, sites that have historical information about the information industry. This entire database is completely indexed and searchable, which can be a beneficial aid in targeted search and research.
2. ***IT Honor Roll***—a database of over 800 names and growing, discussing individuals who have made a noteworthy contribution to the information technology industry.

Other information technology resources from the IT History Society are:

- ***Calendar*** of upcoming IT Historical and Archival events
- ***Research links*** and tools to aid in the preservation of IT history
- Over 1,000 ***Technology Quotes***
- An active ***Blog*** with discussions about historical IT events and the people behind them
- A ***Social Network*** of IT history professionals, archivists, and hobbyists.

The Society is also in the process of creating three more databases:

- All information technology companies both past and present
- All information technology software created, both past and present
- All information technology hardware created, both past and present

The Society feels that these valuable resources can be of great benefit to information technology professors, teachers, assistants, researchers, and students. All databases are works in progress and each database has links for the IT community to add and grow the entries of each database.

The Society is a non-profit educational and research organization. It does not charge for membership or the use of its information. The IT community supports the Society's operations through donations to its 501 (c) (3) non-profit foundation. For additional information, see: http://ithistory.org/educators/ ▮

Nominees Sought for CRA Board

The Computing Research Association seeks your help in suggesting nominations for its Board of Directors. The deadline for receipt of nominations is **December 2, 2011.**

Each spring CRA's member organizations elect about one-third of the association's board members to three-year terms. It is important that the CRA Board represents the interests of the entire computing research community, and it is CRA's policy to solicit a broad range of candidates. Candidates are not required to be affiliated with CRA member organizations.

- **On January 9, 2012,** from the nominations received, the Elections Committee will announce its candidates for the ballot.
- **On February 9, 2012,** nominations are due for candidates nominated by petition signed by the heads of at least 10 Constituent Member Organizations that are current in dues payment.

The CRA board is a working board, and all members are expected to actively participate. CRA has a relatively small professional staff, and board members have detailed involvement in all major projects. Recent and current projects include:

- Working with the computing research community to envision the future.
- Planning the biennial CRA Conference at Snowbird.
- Conducting the annual CRA Taulbee Survey.
- Conducting other surveys (e.g., departmental budgets, space, personnel).
- Developing workshops on critical policy issues for computing research.
- Thinking strategically about the future of computing education.
- Planning workshops on academic and industrial careers.
- Increasing the participation of women and minorities in computing research, with the help of National Science Foundation grants.
- Improving public and policymaker understanding of the importance of computing and computing research in our society.
- Working with other national organizations to increase understanding and appreciation of computer science research.

Additional information on CRA and its activities is available on the Web at: http://www.cra.org.

In addition to actively participating in board projects, board members are asked to attend two board meetings per year and pay their travel and hotel costs.

Please contact the person you are nominating before submitting his or her name to ensure that the nominee is willing to stand for election to the board. Those who are nominated are required to write a brief statement (not to exceed 100 words) supporting their nominations. Nomination forms and additional information are available at: ***http://www.cra.org***. Questions can be sent to elections@cra.org. ***Nominations must reach CRA by December 2, 2011.*** ▮

National Robotics Initiative: *A National Partnership to Advance U.S. Leadership in Robotics* from Page 1

robotics will have dramatic benefit to productivity and sustainable economic growth. Continued involvement from the computing community will help make the NRI a reality.

The collaboration of multiple federal agencies will allow the initiative to play a catalytic role in the development of smart technologies that enhance America's productivity and worker safety across multiple sectors. Working together, the NSF, NASA, NIH, and USDA will create the next-generation operational systems in areas such as advanced manufacturing; civil and environmental infrastructure protection; healthcare and rehabilitation; military and homeland security; space and undersea exploration; food production, processing, and distribution; assistive devices for improving independence and quality of life; and safer driving. The potential long-term impact of the NRI is enhanced by the contributions of these four agencies, which support science, engineering, and technology across many sectors and disciplines.

Cooperation among academic, industry, and non-profit organizations will be key to achieve successful linkages between fundamental science and development, deployment, and use of next generation robots. The computing community has already demonstrated great success in innovating for society by forging these collaborations. As the President noted in his June announcement, "Throughout our history, our greatest breakthroughs have often come from partnerships just like this one... We ended up with some of the world-changing innovations that fueled our growth and prosperity, and created countless jobs—the mobile phone, the Internet, GPS—because we were able to, in strategic ways, bring people together and make critical investments."

Participation in the NRI is one way for the community to actualize the potential of computing suggested by PCAST—to support advances in computing as a key driver of economic competiveness, achieve major national and global priorities in multiple sectors, and accelerate the pace of discovery in nearly all other science and engineering fields. It will also demonstrate the ability of computing to solve national challenges to promote more transformative opportunities for the future.

We invite you to participate in this exciting new community-driven cross-agency program led by the CISE Directorate of NSF! ▮

Farnam Jahanian *is the Assistant Director for Computer and Information Science and Engineering at the National Science Foundation.*

Notes:

[1]http://www.whitehouse.gov/the-press-office/2011/06/24/remarks-president-carnegie-mellon-universitys-national-robotics-engineer

[2]http://www.us-robotics.us/reports/CCC%20Report.pdf

[3]http://www.cra.org/ccc/robotics

[4]http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast-nitrd-report-2010.pdf

My Experiences as a CIFellow

By Cindy Bethel

Entering the workforce following the support and protection of graduate school can be challenging. These challenges were compounded by a difficult economy with limited prospects for research and academic positions in 2009.

It was such an honor to be selected as one of the 60 inaugural CIFellows out of 526 very worthy applicants. The CIFellows Project[1] was designed to provide new doctoral graduates postdoctoral opportunities to continue research careers and develop new skills to improve their marketability in the academic and research job market.

My dissertation research focused on the use of affective expression in appearance-constrained robots for victim management in robot-assisted urban search and rescue. Though this research was exciting and interesting to me, I wanted the opportunity to learn about different applications for robots and how robots can be used with different populations. The CIFellows Project allowed me the opportunity to explore new research ideas and gain new skills.

As a CIFellow, I started exploring new research interests by working with students in the Social Robotics Laboratory at Yale University and with professionals at the Yale Child Study Center. I assisted with a project that investigated the use of robots for interactions with children diagnosed with Autism Spectrum Disorders (ASD). It appears that the rate of diagnosis for ASD has become more prevalent and it even personally touched my life, so it was important to me to be involved in determining if robots could impact these children in a positive way.

The CIFellows Project and Yale University provided me with the opportunity to learn to work with protected populations in a clinical setting. I would not have gained this type of experience in any other research position. It was exciting and rewarding to watch these children respond to the robots and learn how to evaluate their reactions. My participation in this type of research endeavor required an entirely new skill set and review of literature. The CIFellows Project provided me the support to develop these skills and the time to acquire this new knowledge to enhance my research expertise.

My mentor, Brian Scassellati, was very supportive in allowing me to explore my own independent research ideas and investigate the viability of new research topics. My most recent research investigated whether young children would be as willing to share a secret they had been told to keep with a robot as they would an adult. This research was a preliminary investigation to determine if robots might be a useful tool for gathering sensitive information from children who may have experienced maltreatment and/or trauma.

The preliminary results from this research were promising and the observations indicated that the children (4 to 6 years old) were as likely to share the secret they were told with both the robot and the adult. The children interacted with the robot using similar social conventions they exhibited with the adult (e.g., greeting, turn-taking, etc.). It was exciting to have the opportunity to explore a research track that was high risk with the potential for high reward in a supportive postdoctoral environment without the pressure often associated with the tenure process. It was helpful to have a mentor to share ideas with and discuss the possible pitfalls associated with the development of a new line of research. This investigative process provided a strong foundation for a new line of research that improved my marketability in an extremely competitive research-oriented job market.

The CIFellows Project provided me with the opportunity to continue my professional development while at Yale University. As part of this program I was able to enhance my education by taking a machine shop operation and safety course so that I could develop the skills necessary to build parts for creating and repairing robots. I was also given the opportunity to participate in a week-long summer workshop on the latest medical and therapeutic developments associated with Autism Spectrum Disorders. I attended workshops on mentoring to improve my knowledge and skills in teaching and mentoring others in research, science, and engineering environments. Additionally, I attended workshops on writing grant proposals and had an opportunity to co-write a proposal with my mentor.

As part of the program, CIFellows attended an annual research and career mentoring workshop[2] sponsored by the Computing Research Association. The benefits associated with attending these workshops were invaluable for networking and career development. The workshop presenters encouraged the Fellows to make appointments with NSF and other government funding agencies to learn more about the grant proposal process and to meet with Program Managers. By following their advice, I had the opportunity to serve on a NSF review panel.

The CIFellows Project enabled me to gain new skills and to be more competitive in this challenging job market. This year, when academic institutions were receiving 300 to 400 applications for one posted position, I was able to secure an Assistant Professor position in the Computer Science and Engineering department at a research-intensive university. The CIFellows Project provided me with a means to continue to develop my professional skills, remain in the computing research community, and continue to pursue my dream of a career in academics.

In 2009, opportunities to find employment in computing research were extremely limited, and unfortunately that situation has not improved much today, but I am appreciative for the opportunities that the CIFellows Project provided me to continue a career in research that will impact society and make a difference to others. ∎

Cindy Bethel *received her Ph.D. in Computer Science and Engineering at the University of South Florida in 2009 under the direction of co-advisors Robin Murphy and Larry Hall. Her research focuses on the areas of human-robot interaction and social robotics. She has spent the better part of the past two years as a Computing Innovation Fellow (CIFellow) at Yale University, working with Brian Scassellati in the Social Robotics Laboratory. This fall, Cindy will begin a tenure-track faculty position as Assistant Professor in Computer Science and Engineering at Mississippi State University.*

Notes:

[1] For more details about the CIFellows Project, visit http://cifellows.org/.

[2] http://www.cra.org/resources/crn-online-view/cifellows_descend_on_washington/.

CRA Hosts Tisdale Fellow

CRA was pleased to welcome a 2011 Tisdale Fellow as a summer intern.

Max Cho, a junior at Yale University studying cognitive science, spent eight weeks learning about science and technology policy in Washington through his work with the CRA Government Affairs staff and the Computing Community Consortium, and from the other Tisdale Fellows.

The Tisdale Fellowship Program brings college students to Washington for summer internships that explore current public policy issues of critical importance to the high technology sector of the economy. In addition to CRA, other participants in the program include: Applied Materials; Business Software Alliance; Dell Computers; Philips; and Technology CEO Council.

On July 28, CRA hosted a luncheon for the Fellows, after which government affairs director, Peter Harsha, provided an overview of CRA's activities. ∎

(L to R): Tisdale Director, **Joe Tasker;** 2011 Tisdale Fellows: **Nezile Mthembu,** Dell (Bennett College for Women), **Hajra Iftikhar,** Technology CEO Council (Carnegie Mellon University), **Christina Sprouse,** Philips (UCLA), **Max Cho,** CRA (Yale), **George Wang,** Applied Materials (Stanford). Not pictured: **Alex Farivar,** Business Software Alliance (University of Michigan).

Grace Hopper Celebration of Women in Computing

THEME: "WHAT IF…?"

November 9 – 12, 2011

Portland, Oregon

Oregon Convention Center

http://gracehopper.org/2011/

2010-2011 Computing Research Association Members

Academic Members

Arizona State University (CSE)
Auburn University (CSSE)
Binghamton University, SUNY (CS)
Boston College (CS)
Boston University (CS)
Bowling Green State University (CS)
Bradley University (CS)
Brandeis University (CS)
Brown University (CS)
Bryn Mawr College (MCS)**
Bucknell University (CS)
Carnegie Mellon University (CS)
Case Western Reserve University (EECS)
Clemson University (CS)
Colgate University (CS)
College of Charleston (CS)
College of William & Mary (CS)
Colorado School of Mines (MCS)
Colorado State University (CS)
Columbia University (CS)
Cornell University (CS)
Cornell University (IS)**
Dalhousie University (CS)
Dartmouth College (CS)
DePaul University (CDM)
Drexel University (CS)
Drexel University (IST)
Duke University (CS)
Emory University (MCS)
Florida Institute of Technology (CS)
Florida International University (CS)
Florida State University (CS)
George Mason University (CS)
George Washington University (CS)
Georgetown University (CS)
Georgia Institute of Technology (CS)
Georgia Institute of Technology (CSE)
Georgia Institute of Technology (IC)
Georgia Southern University (IT)
Georgia State University (CS)
Grinnell College (MCS)
Harvard University (CS)
Harvey Mudd College (CS)
Hobart and William Smith Colleges (MCS)
Illinois Institute of Technology (CS)
Indiana University School of Informatics and Computing
Iowa State University (CS)
Iowa State University (ECE)
Johns Hopkins University (CS)
Johns Hopkins University (SI)
Juniata College (IT & CS)
Kansas State University (CIS)
Kent State University (CS)
Korea Advanced Institute of Science & Technology (CS)
Lafayette College (CS)
Lehigh University (CSE)
Louisiana State University (CS)
Loyola University, Chicago (CS)
Marquette University (CS)
Marymount University (IT)
Massachusetts Institute of Technology (EECS)
Miami University (CS)
Michigan State University (CSE)
Michigan Technological University (CS)
Mississippi State University (CSE)
Montana State University (CS)
Montclair State University (CS)
Mount Holyoke College (CS)
National University of Singapore (CS/IS)
Naval Postgraduate School (CS)
New Mexico State University (CS)
New York University (CS)
North Carolina State University (CS)
North Dakota State University (CSOR)
Northeastern University (CIS)
Northwestern University (EECS)
Nova Southeastern University (CS)
Oakland University (CSE)
Ohio State University (CSE)
Ohio University (EECS)
Oklahoma State University (CS)
Old Dominion University (CS)
Oregon State University (EECS)
Pace University (CSIS)
Pennsylvania State University (CSE)
Pennsylvania State University (IST)
Polytechnic University (CIS)
Pomona College (CS)
Portland State University (CS)
Princeton University (CS)
Purdue University (CS)
Regis University (CIS)
Rensselaer Polytechnic Institute (CS)
Rice University (CS)
Rochester Institute of Technology (CS)
Rutgers University, Busch Campus (CS)
Rutgers University, Camden (CS)
Saint Louis University (MCS)
Santa Clara University (CE)
Simon Fraser University (CS)
Singapore Management University (IS)
Southern Polytechnic State University (CSE)
Stanford University (CS)
Stevens Institute of Technology (CS)
Stony Brook University, SUNY (CS)
Swarthmore College (CS)
Syracuse University (IS)
Tecnologico de Monterrey, ITESM, Monterrey Campus (DTIE)
Texas A&M University (CSE)
Texas A&M University, Corpus Christi (CS)
Texas State University (CS)
Toyota Technological Institute at Chicago (CS)
Tufts University (CS)
Union College (CS)
University at Albany, SUNY (CI)
University at Buffalo, SUNY (CSE)
University of Alabama, Birmingham (CIS)
University of Alabama, Tuscaloosa (CS)
University of Alberta (CS)
University of Arizona (CS)
University of Arkansas (CSCE)
University of Arkansas at Little Rock (IS&SE)
University of British Columbia (CS)
University of Calgary (CS)
University of California, Berkeley (EECS)
University of California, Berkeley (IMS)
University of California, Davis (CS)
University of California, Irvine (ICS)
University of California, Los Angeles (CS)
University of California, Riverside (CSE)
University of California, San Diego (CSE)
University of California, Santa Barbara (CS)
University of California, Santa Cruz (CE)
University of California, Santa Cruz (CS)
University of Central Florida (EECS)
University of Chicago (CS)
University of Colorado, Boulder (CS)
University of Delaware (CIS)
University of Georgia (CS)
University of Hawaii (ICS)
University of Houston (CS)
University of Idaho (CS)
University of Illinois, Chicago (CS)
University of Illinois, Urbana Champaign (CS)
University of Illinois, Urbana Champaign (ECE)
University of Iowa (CS)
University of Kansas (EECS)
University of Kentucky (CS)
University of Louisiana at Lafayette (CACS)
University of Maine (CS)
University of Maryland (CS)
University of Maryland, Baltimore Co (CSEE)
University of Maryland, Baltimore County (IS)
University of Massachusetts, Amherst (CS)
University of Massachusetts, Boston (CS)
University of Massachusetts, Lowell (CS)
University of Miami (CS)
University of Michigan (EECS)
University of Michigan (I)
University of Michigan, Dearborn (CIS)
University of Minnesota (CSE)
University of Mississippi (CIS)
University of Missouri, Columbia (CS)
University of Missouri, Kansas City (CS)
University of Nebraska at Omaha (CS/IST)
University of Nebraska, Lincoln (CSE)
University of Nevada, Las Vegas (CS)
University of Nevada, Reno (CSE)
University of New Hampshire (CS)
University of New Mexico (CS)
University of New Mexico (ECE)
University of North Carolina at Chapel Hill (CS)
University of North Carolina at Chapel Hill (SILS)
University of North Carolina, Charlotte
University of North Dakota (CS)
University of North Texas (CS)
University of Notre Dame (CSE)
University of Oklahoma (CS)
University of Oregon (CIS)
University of Pennsylvania (CIS)
University of Pittsburgh (CS)
University of Pittsburgh (IS)
University of Puget Sound (MCS)
University of Rochester (CS)
University of South Alabama (CIS)
University of South Carolina (CSE)
University of South Florida (CSE)
University of Southern California (CS)
University of Southern California (EES)
University of Texas, Austin (CS)
University of Texas, Brownsville (CIS)
University of Texas, Dallas (CS)
University of Texas, El Paso (CS)
University of Toronto (CS)
University of Utah (CS)
University of Virginia (CS)
University of Washington (CSE)
University of Washington, Bothell (CS)
University of Washington, Tacoma (CSS)
University of Waterloo (CS)
University of Wisconsin, Madison (CS)
University of Wisconsin, Milwaukee (EECS)
University of Wyoming (CS)
Utah State University (CS)
Vanderbilt University (EECS)
Villanova University (CS)
Virginia Tech (CS)
Wake Forest University (CS)
Washington State University (EECS)
Washington University in St. Louis (CSE)
Wayne State University (CS)
Western Michigan University (CS)
Williams College (CS)
Worcester Polytechnic Institute (CS)
Wright State University (CSE)
Yale University (CS)
York University (CSE)

Lab and Center Members

Microsoft Corporation *(Sustaining*
Google (Supporting Member)
IBM Research (Supporting Member)
National Security Agency (Supporting Member)

AT&T Labs
Avaya, Inc.
CA Labs
Computer Science Research Institute
Fujitsu Laboratories of America, Inc.
FX Palo Alto Laboratory
Hewlett-Packard Company
IDA Center for Computing Sciences
Intel Corporation
Lawrence Berkeley National Laboratory
Mitsubishi Electric Research Labs
National Center for Atmospheric Research
NEC Laboratories America, Inc.
SCI Institute
SRI International
Sun Labs, Oracle
Telcordia Technologies
Yahoo! Labs

Affiliated Professional Society Members

Association for the Advancement of Artificial Intelligence

Association for Computing Machinery

Canadian Association for Computer Science (CACS/AIC)

IEEE Computer Society

Society for Industrial and Applied Mathematics

USENIX Association

**Indicates new member in 2009-2010*

House Appropriators Approve Small Bump to NSF Research in FY12 from Page 1

FY 12 Congressional Action at Selected Federal Science Agencies

				Change vs. Request		Change vs. FY 11	
	FY 11 Estimate	FY 12 Request	**FY 12 House**	$	Percent	$	Percent
National Science Foundation R&D	6,860	7,767	**6,860**	-907	-11.7	0	0
Research and Related Activities	5,564	6,254	**5,607**	-647	-10.3	43	0.8
Major Research Equipment and Facilities	117	225	**100**	-125	-55.5	-17	-14.6
Education and Human Resources	861	911	**835**	-76	-8.4	-26	-3
National Institute of Standards and Technology	531	874	**634**	-240	-27.4	103	19.4
Scientific and Tech Research and Services	448	629	**479**	-150	-23.9	30	6.8
Department of Energy	25,591	30,684	**24,722**	-5,962	-19.4	-869	-3.5
Office of Science	4,843	5,416	**4,800**	-616	-11.4	-43	-0.9

Source: AAAS R&D Budget and Policy Program

accompanying the CJS bill, the committee lists "American innovation and competitiveness" among a very short list of "areas of highest priority." They note that "[t]hese investments lead to innovation and improve the competitiveness of American businesses, leading, in turn, to positive impacts on the quality of life for all Americans."

Both the Commerce, Justice, Science and the Energy and Water bills move to the Senate where the Senate intends to pass its own versions under slightly higher budgetary caps. Differences between the bills would normally have to be worked out in conference in the fall, before the end of the fiscal year on September 30. However, Congress has been unable to reach resolution of the appropriations process under that so-called "regular order" in recent memory, and the chances of that occurring this year are generally assumed to be remote. It is more likely that the House and Senate will fail to reconcile on the bills individually and will be forced to consider most or all of the 12 annual appropriations bills necessary to fund the functions of government in one giant omnibus bill at year's end.

As occurred with the FY11 appropriations, final passage of the must-pass FY12 appropriations bills will likely be another opportunity for leaders of both parties to wrangle for budgetary concessions, much as they did during the debt-limit debate (another piece of "must-pass" legislation). This could push the final resolution of the bills well into December, January or even later.

At about the same time, federal science agencies should have a better sense of their future funding prospects as a result of the deal reached on August 2 to end the federal debt-limit crisis. Under the debt-limit deal, the leadership of both parties in the House and Senate is to appoint a group of six Democrats and six Republicans to a Joint Select Committee on Deficit Reduction, charged with finding ways of raising revenues or reducing the costs of entitlement programs. If the committee fails to come up with recommendations, or the House and Senate fail to pass them in an up-or-down vote, then a series of automatic triggers would activate, imposing two tranches of cuts across the board to discretionary spending.

Of the two cuts, the second is the most worrisome to the science advocacy community. The first would call for a $917 billion across-the-board cut to discretionary spending over the next 10 years. Much of that cut would come from reductions to defense spending, and it is heavily loaded into FY14 and beyond. The second, more troublesome cut is a required $1.2 trillion reduction effective in FY13. Members of the Joint Committee will be responsible for deciding how to spread that reduction around to the various agencies. While there are no hard-and-fast estimates of its potential impact on federal science agencies, analysis from within and outside the science community suggests that agencies like NSF and DOE would likely endure cuts of anywhere from 7 to 11 percent in their FY13 budgets should the automatic cuts trigger.

But it is unclear whether those automatic triggers will be activated. As this goes to press, members of the Joint Committee have not yet been named. There is a chance that members of the committee will come up with ways of increasing federal revenues and changing federal entitlement programs that enjoy enough support in Congress to avert the automatic triggers. But that is hard to imagine given the current levels of polarization in both chambers.

In fact, a recent study of the current makeup of Congress by *National Journal* determined that the current Congress is the most polarized the body has been in 30 years. The study found that there are currently no Republican members of the Senate more liberal than any Democrat in the chamber, and no Democratic Senator more conservative than any Republican. Maybe more remarkably, in the House, there are only five GOP Representatives more liberal than any Democratic member in the House. And of the 98 "middle of the road" Democrats who faced election in November 2010, 55 lost their seats.

Whether science agencies can find support in this tough fiscal environment is an open question—a question made more difficult to answer by the complete lack of a "middle" in Congress. But the timeline is becoming clearer. The Joint Committee is required to have its recommendations for saving the $1.2 trillion by November 23, 2011, and Congress is required to vote on the recommendations by December 23, 2011. If the recommendations are not accepted—and if Congress doesn't decide to change the rules to this process—the cuts to agencies begin January 2, 2013.

Check with the Computing Research Policy Blog (http://cra.org/blog) for all the latest as these dates approach. ▮

Human Resources Program Manager
Computing Research Association

The role of the Program Manager is to support the CRA in the development and execution of programs that benefit the computing community by increasing participation and diversity in computing research. Specific tasks include the following (not exhaustive):

- Work with CRA volunteers to plan, design and implement new and existing programs.
- Oversee, track and provide updates of all related activities (including assessment and evaluation of programs).
- Plan and coordinate all aspects of telephone and in-person professional meetings, workshops and special events.
- Participate in committee and program meetings, on the telephone and in person, traveling several times a month.
- Assist committee members in securing funding for various programs.
- Write proposals and reports, including the development and implementation of budgets.
- Manage all federal and foundation funding for committees.
- Facilitate communication between and among external and internal constituencies.
- Work closely with volunteers and the webmasters to develop promotional materials, newsletters and web content.
- Increase visibility of the organization through presentations at conferences, development of promotional materials and collaborations with other groups.

The selected candidate will work closely with the chairs of the CRA committees, particularly CRA-W, he or she will support.

This position requires the ability to work independently and with significant autonomy. Initiative, organization, maturity, accounting experience and judgment are vital to this position. The staff member must operate under pressure in a busy office and maintain comprehensive control of a multitude of projects simultaneously, while pushing all projects to timely completion and providing continual updates on the status of each project to the appropriate stakeholders. Reliability and good communication skills are key requirements. A strong interest in computing research and its impacts is important. Availability to travel offsite to various meetings is necessary.

This is not a research position. It is a position working with and supporting the computing research community.

Desired background:

1) Experience working with the computing research community.
2) Financial management and accounting experience in a non-profit environment; particularly experience with the National Science Foundation's processes and procedures.
3) Demonstrated organizational and communication skills

Applications and inquiries to: employment@cra.org

2011 Undergraduate Researcher Awards Presented

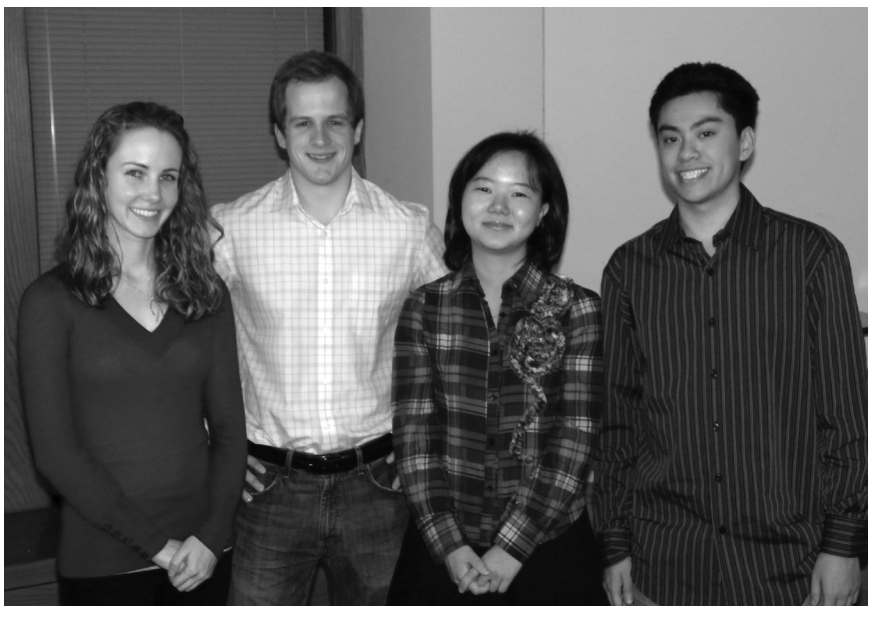
CRA's 2011 Outstanding Undergraduate Researcher Awardees were recognized for their accomplishments in a number of different venues this year.

Princeton University honored its four CRA awardees during Class Day on May 30. Recognized were the Female Winner, **Valentina Shin,** and Male Winner, **Patrick Wendell.** Honorable Mentions were presented to **Kay Ousterhout** and **Michael Ty**. Patrick also was honored at the NSDI 2011 meeting in Boston on March 30.

Male Winner **Peter Bailis** and Honorable Mention **Linfeng Yang** received their awards at the end-of-year luncheon at Harvard University on April 25. Peter was also recognized in May at the Workshop on Hot Topics in Operating Systems (HotOS) in Napa, CA.

At Tufts, Male Runner-Up **Max Leiserson** and Honorable Mentions **Sarah Cannon** and **Sean Kelley** received their awards during a departmental reception on May 4.

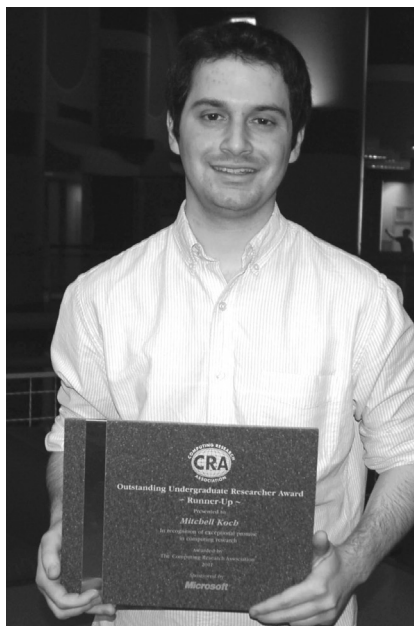
Rice University recognized Male Runner-Up **Mitchell Koch** at a departmental luncheon on April 20. Scott Rixner presented the award on behalf of Devika Subramarian, Mitchell's advisor. ▮



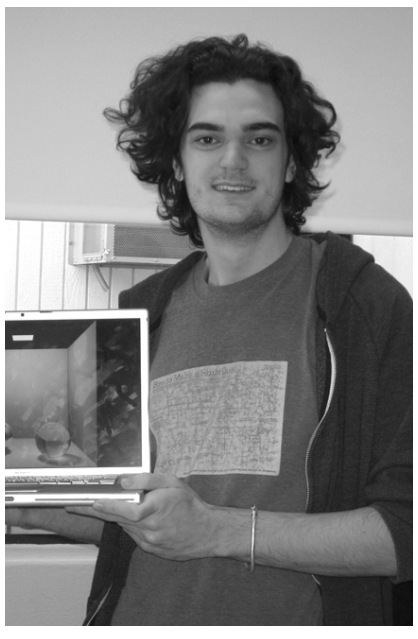
Princeton University student awardees at Class Day Event: (L to R) Kay Ousterhout, Patrick Wendell, Valentina Shin, and Michael Ty.

Sarah Cannon (L) was recognized for her CRA Honorable Mention award at a departmental reception at Tufts University. Congratulating her is department head Carla Brodley .

Harvard University Winner **Peter Bailis** (R) receives his CRA award from Matt Welsh, Program Chair of the USENIX Workshop on Hot Topics in Operating Systems in May.

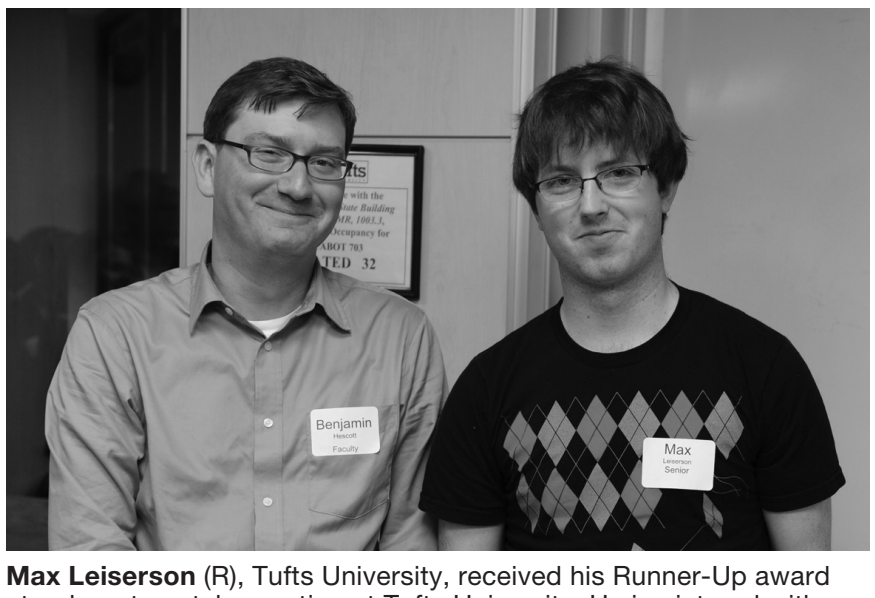


Runner-Up **Mitchell Koch** received his award at a departmental luncheon at Rice University.



Sean Kelley is pictured at the Tufts reception where he received his Honorable Mention award.

Linfeng Yang received his Honorable Mention award at the end-of-year departmental luncheon at Harvard University.



Max Leiserson (R), Tufts University, received his Runner-Up award at a departmental reception at Tufts University. He is pictured with one of his nominators, Professor **Benjamin Hescott,** who made the presentation.

Professional Opportunities

Carnegie Mellon University
Computer Science
Postdoctoral Position on Ensemble Programming

We are seeking applications for one postdoctoral position in a project aimed at developing a usable and verifiable programming language for large distributed ensembles of agents. The position is based on the Qatar campus of CMU, with travel to Pittsburgh.

Applicants should have a strong background and interest in some combination of multiset/term rewriting, concurrency, massively distributed systems, programming language design and implementation, linear logic, logic programming or swarm robotics.

Additional information and application instructions at:

http://www.qatar.cmu.edu/iliano/projects/ripple/

Cold Spring Harbor Laboratory
Schatz Laboratory
Computational Postdoctoral Research Position

Applications are invited for a 2-3 year computational postdoctoral research position in the Schatz laboratory of Quantitative Biology at Cold Spring Harbor Laboratory. The researcher will develop novel methods for large-scale DNA and RNA sequence analysis related to human and/or plant genetics, such as developing methods for discovering de novo mutations related to autism, or for assembling and analyzing large complex plant genomes.

Position Requirements

Ideal applicants will have:

- A Ph.D. degree in Computer Science, Applied Mathematics, or related fields with a dissertation related to Computational Biology.
- Strong programming and analytical skills, including experience with next-generation sequencing data.
- Published at least two first author papers in English and demonstrated written communication skills in English.

The position will be based at CSHL in Cold Spring Harbor, NY and includes an attractive benefits package.

To apply, please send a letter of interest and current CV to http://www.cshl.edu/Careers/postdoctoral-positions, Job Number 1357.

For more information about the Schatz lab, please visit:

http://schatzlab.cshl.edu/apply/

Website: www.cshl.edu

Cold Spring Harbor Laboratory is an Equal Opportunity Employer

D. E. Shaw Research
Systems Software Development: Supercomputer for Computational Biochemistry

Exceptional software developers sought to design, develop, and deploy systems software for a special-purpose supercomputer. Successful hires will join an interdisciplinary research group pursuing an ambitious, long-term project aimed at achieving major scientific advances in the fields of biochemistry and molecular biology. Our Systems Software team members work on operating systems, networking software, firmware design, development tools, diagnostics, and tools/protocols/user interfaces for scalable operations, administration, maintenance and provisioning (OAM&P).

Ideal candidates will have a computer science or engineering degree, prior experience with non-trivial parallel or distributed systems software projects, deep knowledge of operating systems internals, strong C/C++/Python programming ability, and excellent verbal and written skills. Familiarity with device drivers, Linux or BSD kernels, run-time systems, communication protocols, event-driven and thread-based concurrency, bootstrap code, x86 hardware and BIOS and bring up of new hardware is a plus, but specific knowledge of any of these areas is less critical than exceptional intellectual ability and a demonstrated track record of achievement.

We will consider candidates at all levels of experience and are prepared to reward exceptionally well-qualified individuals with above-market compensation.

To submit an application, please use the link provided below:

http://www.deshawresearch.com/recruit/jobs/Ads/CRA/SS

EOE

George Mason University
Department of Computer Science
Term Assistant Professor

The Department of Computer Science in the Volgenau School of Engineering at the Fairfax, VA campus of George Mason University invites applications for a non-tenure track instructional faculty position at the rank of Assistant Professor beginning Fall 2011.

The faculty position is in information security and assurance. Minimum qualifications for the position include a Ph.D. in Computer Science or a related field, research and/or industrial experience in information security and assurance, and a commitment to high quality teaching.

The department has over 40 faculty members with wide-ranging research interests. Security research at George Mason is conducted in access control methods and models, authentication, network security, intrusion detection and prevention, database security, operating systems security, vulnerability analysis, malware analysis and defense, anonymity and privacy, security theory, and security policy. For more information on the department, visit our Web site: http://cs.gmu.edu/.

For full consideration please submit application and application materials on-line at http://jobs.gmu.edu (position number F9335Z). To apply, you will need a statement of professional goals including your perspective on teaching and research, a complete C.V. with publications, and the names of three references. The review of applications will begin immediately and continue until the position is filled.

GMU is an equal opportunity/affirmative action employer. Women and minorities strongly encouraged.

The Henry M. Jackson Foundation (HJF)
Physiological Data Modeling Scientist (206381/205350)

The Henry M. Jackson Foundation (HJF) is seeking junior and senior scientists to join the U.S. Army Medical Research and Materiel Command's Biotechnology High Performance Computing Software Applications Institute (BHSAI) [www.BHSAI.org]. HJF provides scientific, technical, and programmatic support services to the BHSAI.

These openings are for dynamic scientists interested in working in an interdisciplinary environment focused on the development and the application of computational solutions to biomedical problems, involving signal processing of time series physiological data, data mining, data-driven and physiological-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 on multiple projects, involving a diverse and interdisciplinary team of scientists across multiple laboratories.

Foreign nationals are welcome to apply. U.S. citizenship or permanent resident status is not required. These positions are located in Frederick, Maryland.

Please apply on-line at www.hjf.org/careers Click "Advanced Search" and enter job number 206381 OR 205350 in the Job Opening ID box. OR fax your resume to 240-314-7334. Please specify title and job number on fax.

AA/EEO

IMT Institute for Advanced Studies Lucca
Computer Science and Applications Research Area
Scholarships, Housing, Meals in Computer Science and Engineering PhD Program

IMT Institute for Advanced Studies Lucca is an international Graduate School and Institute of Technology that acts as a research university with the aim of forming human capital—specifically with regard to its PhD programs—in disciplines characterized by their high potential for concrete application.

Computer and Engineering

The doctoral program aims at preparing researchers and professionals with a wide knowledge about the foundations of informatics and information engineering, and about their application to a variety of systems in many different domains. The program introduces new perspectives in formulating and solving technical challenges that are currently a target of very active research areas. The research activity focuses on key aspects of informatics and information engineering such as open-endedness, dynamics and control, autonomy, security, concurrency, cost-effectiveness, quality of services, dependability, optimization, and is concerned especially with the application to networked and large-scale systems with high degrees of interaction.

For additional information and to submit your application, see (http://www.imtlucca.it/phd_programs/call_for_applications/index.php). The deadline is September 28, 2011.

IMT Institute for Advanced Studies Lucca
Computer Science and Applications Research Area
Tenured Faculty Positions in Computer Science, Mathematical Statistics, Machine Learning, Large Scale Data Mining

IMT Institute for Advanced Studies Lucca is an international Graduate School and Institute of Technology that acts as a research university with the aim of forming human capital—specifically with regard to its PhD programs—in disciplines characterized by their high potential for concrete application.

IMT Lucca has opened a call for confidential expressions of interest for tenured positions in:

Computer Science, Mathematical Statistics, Machine Learning, Large Scale Data Mining

We will consider highly qualified candidates working at the intersection between computer science, physics, information theory, and mathematics, who combine a strong theoretical background with an orientation towards research on processing huge amounts of complex data in the analysis of socio economic, technical, or biological. Candidates must have an excellent record of high-impact international publications. They should have demonstrated remarkable ability in leading research groups, as well as experience in conducting/coordinating international projects.

Preference will be given to candidates active at the intersection between algorithms, theory and applications, in the following fields: analysis and modeling of

KAIST

KAIST, Department of Computer Science
Tenure-track faculty positions

Kaist, the top Science and Engineering University in Korea, invites applications for tenure-track positions at all levels in Computer Science. We welcome applications from outstanding candidates in all major fields of computer science and in particularly its interdisciplinary areas. Required qualification is a Ph.D. or an equivalent degree in computer science or a closely related field by the time of appointment. Strong candidates who are expected to receive the Ph.D. degrees within a year can be offered our appointment. Applicants must demonstrate strong research potential and commitment to teaching. KAIST attracts nationwide top students pursuing B.S., M.S., and Ph.D. degrees. The teaching load is three hours per semester.

KAIST offers a competitive start-up research fund and joint appointment with KAIST Institutes, which will expand opportunities in interdisciplinary research and funding. KAIST also provides housing for five years. KAIST is committed to increasing the number of female and non-Korean faculty members.

To apply, please submit the application form and CV along with the required documents to HEAD, Department of Computer Science (email: choi@sc.kaist.ac.kr). For more information on available positions, please visit our website:

http://cs.kaist.ac.kr/service/employment.cs

Professional Opportunities

massive data structures; graph theory and random structures; analysis and modeling of complex networks; machine learning, large scale data mining.

The deadline for submissions is August 30, 2011.

For the form and additional information, please go to http://www.imtlucca.it/faculty/positions/professors_positions.php#computer_science.

Indiana University School of Informatics, IUPUI

Open Rank Tenure-Track Faculty Position in Bioinformatics

The Indiana University (IU) School of Informatics (SoI) at Indiana University Purdue University Indianapolis (IUPUI) invites applicants for an open rank tenure-track appointment in Bioinformatics to begin August 1, 2012. Candidates should be scientists interested in conducting and developing a strong research program in bioinformatics as it applies to biology, computational biology and modeling, biostatistics, translational bioinformatics, etc. Responsibilities include teaching within the bioinformatics graduate program, mentoring students, supervising theses and dissertations.

Requirements include a Ph.D., a record of effective teaching, and a proven publication record. Candidates must demonstrate the ability to sustain externally funded research with an independent team of graduate students. For information, including degrees/programs, course descriptions, and faculty research, see http://www.informatics.iupui.edu.

Submit a statement on your philosophy of teaching and research interests, curriculum vitae, cover letter, three letters of recommendations to: informhr@iupui.edu.

Materials received prior to October 15, 2011 will receive full consideration. However, the position remains open until filled.

The School of Informatics is eager to consider applications from women and people of color. Indiana University is an Affirmative Action/Equal Opportunity Employer.

Indiana University

School of Informatics and Computing

Five Tenure-Track/Tenured Positions

The School of Informatics and Computing at Indiana University, Bloomington, invites applications for five tenure-track/tenured positions beginning in fall 2012, in the areas of bioinformatics, computer science (all subareas), computer science education research (joint position with School of Education), computer security, and social informatics. The School expects continued hiring in the coming years.

Positions are open at all levels. Applicants should have a Ph.D.in the relevant area and a well-established record (senior level) or demonstrable potential for excellence in research and teaching (junior level).

The IU Bloomington School of Informatics and Computing is the first of its kind and among the largest in the country, with unsurpassed breadth. It includes more than 70 faculty members, 500 graduate students, and strong undergraduate programs. Degrees offered include M.S. degrees in Computer Science, Bioinformatics, Human Computer Interaction Design, and Security Informatics, and Ph.D. degrees in Computer Science and in Informatics. The School has received public recognition as a "top-ten program to watch" (Computerworld) thanks to its excellence and leadership in academic programs, interdisciplinary research, placement, and outreach. The school offers excellent work conditions, including attractive salaries and research support, and low teaching loads in a setting of strong student growth.

Located in the wooded rolling hills of southern Indiana, Bloomington is a culturally thriving college town with a moderate cost of living and the amenities for an active lifestyle. IU is renowned for its top-ranked music school, high performance computing and networking facilities, and performing and fine arts.

Applicants should submit a curriculum vitae, a statement of research and teaching, and the names of 3 references (junior level) or 6 references (senior level) using the recruit link at http://hiring.soic.indiana.edu (preferred) or by mail to:

Faculty Search Committee
School of Informatics and Computing
919 E 10th Street
Bloomington, IN 47408

Questions may be sent to faculty-search@informatics.indiana.edu. To receive full consideration completed applications must be received by November 15, 2011.

Indiana University is an Equal Opportunity/Affirmative Action employer. Applications from women and minorities are strongly encouraged. IU Bloomington is vitally interested in the needs of Dual Career couples.

DEAN VOLGENAU SCHOOL OF ENGINEERING

George Mason University seeks an experienced and exceptional leader for the position of Dean of the Volgenau School of Engineering to begin in July of 2012. The Dean provides overall academic and administrative leadership for the school.

About George Mason University: George Mason is a public university located in the heart of northern Virginia's technology corridor, just outside Washington, D.C., which makes Mason the destination for students from all over the world. Mason features Nobel laureate faculty members, Division I sports teams, and a technologically advanced campus. The university enrolls over 32,500 students, making it the largest university by head count in the commonwealth of Virginia.

About The Volgenau School of Engineering: The Volgenau School of Engineering at George Mason University was established in 1985. Currently, the school is comprised of the following academic departments: Applied Information Technology; Bioengineering; Civil, Environmental and Infrastructure Engineering; Computer Science; Electrical and Computer Engineering; Statistics; and Systems Engineering and Operations Research.

The Volgenau School is housed in the Long and Kimmy Nguyen Engineering Building. It is a state-of-the-art building which contains more than 180,000 square-feet of classroom, research and office space. As such, it is the largest academic building on Mason's Fairfax campus. It is also Mason's first Leadership in Energy and Environmental Design (LEED) - certified green building.

The Volgenau School was the first engineering school in the United States to offer a Ph.D. degree in information technology. Today, the school offers six Ph.D. degrees, 14 master's degrees, and eight B.S. degrees in programs that cover a large range of information technology (IT) and engineering disciplines. The Volgenau School has also recently added a new B.S. in bioengineering and a new Bioengineering Department. The faculty are active in research, with $17.3 million in research expenditures last year. The school has developed and maintained strong partnerships with northern Virginia IT companies. These partnerships broaden and strengthen the school's academic programs and ensure that classes are current and relevant. Over 50 senior-level executives serve on the school's advisory boards. The school's high-quality faculty and programs make it well-poised to be a top-ranked engineering school in the next decade, and the successful applicant will lead the school in fulfilling that aspiration.

Additional information about the Volgenau School of Engineering can be found at: **http: //volgenau.gmu.edu/.**

Candidates for the position of Dean should have significant academic leadership experience in at least one field represented among the academic programs of the school, while also having familiarity with the broad array of fields in the school. Candidates must have an earned doctorate and a strong record as a scholar consistent with the academic rank of professor. Candidates should have a record of securing and managing external funding; effective and open communication skills; and success in working with internal and external constituencies to support teaching, research, employment opportunities and ongoing professional education.

Nominations and applications should be sent with a letter addressing qualification; curriculum vitae; and the names, addresses and telephone numbers of four professional references to: Dean Jorge Haddock, Chair, Volgenau School of Engineering Search, School of Management, MS 1B1, George Mason University, 4400 University Drive, Fairfax, VA 22030.

Review of applications will begin on October 3, 2011, and continue until the position is filled. For full consideration, please complete the online faculty application for position FA010z at http: //jobs.gmu.edu; and attach a cover letter, CV, and list of four professional references with contact information. *EOE*

The iSchool at Drexel

College of Information Science and Technology

Full-time Tenure-Track Faculty Positions

The iSchool at Drexel University invites applications for several tenure-track positions at the assistant, associate, or full professor level. We welcome applications with a wide variety of teaching and research interests. We are particularly interested in applicants in the following areas; Information Security/Cyber, Security/Forensics, Archival Studies and Digital preservation & Curation. The successful candidate will have a completed doctorate in a related field, evidence of excellence in teaching and research and an interest in working with a highly collaborative, interdisciplinary faculty.

To apply for this position, please apply online at: www.drexeljobs.com/applicants/Central?quickFind=74903 or visit www.drexeljobs.com and search for position number 4229.

Masdar Institute of Science and Technology

Computing & Information Science (C&IS)

Faculty Positions - Full Professors, Associate Professors, and Assistant Professors (Job Code: CIS-F012011)

Masdar Institute of Science and Technology, located in Abu Dhabi, U.A.E., is a private, not-for-profit, independent, graduate-level, research-driven institute developed with the support and cooperation of Massachusetts Institute of Technology (MIT). The goal of the Institute is to develop, over a period of years, indigenous R&D capacity in Abu Dhabi, addressing issues of importance to the region in critical areas such as: renewable energy, sustainability, environment, water resources and microelectronics. The Institute offers graduate degree programs (MSc & PhD) in science and engineering disciplines with a focus on advanced energy and sustainable technologies (See http://www.masdar.ac.ae/ and http://web.mit.edu/mit-tdp/index.html).

Computing & Information Science (C&IS)

The Computing and Information Science program at the Masdar Institute of Science and Technology is seeking applicants for Full Professors, Associate Professors and Assistant Professors for two full-time faculty positions in Computing and Information Science program.

Job Responsibilities:

Teach graduate courses, supervise master and doctoral students, develop a research program, and participate in the Institute's service and outreach activities. New faculty candidates have the opportunity to spend up to 9 months as Visiting Scholars at MIT in Cambridge, MA, and conduct a funded research project jointly with MIT faculty.

Qualifications: The Computing and Information Science program at the Masdar Institute has full-time, open-rank (i.e., Full, Associate, or Assistant Professor) faculty positions. Successful candidates will have an outstanding record in research or potential to become world-class researchers. We encourage applications from candidates with a strong background in all areas of computer science and related disciplines. Candidates must also have an interest in applying their research to areas related to advanced energy and sustainability, broadly defined. Examples of relevant research application areas include, but are not limited to: software support for green buildings, standards for intelligent physical infrastructure, intelligent transportation systems, smart power grids, large-scale scientific databases, sensor networks for ecosystems, human behavior modeling and mining, planning and scheduling for resource efficiency, etc.

The applicants must be fluent in English. A doctoral degree in Computer Science or a related field is required, and post-doctoral or industrial research experience is a plus.

Application submittal information: Massachusetts Institute of Technology is assisting Masdar Institute in the search. Initial screening of applications will begin immediately and the positions will remain open until filled.

Application materials should include:

- applicant name and contact information,
- a curriculum vitae,
- statements of research and teaching interests,
- an application letter describing the applicant's current position and how his/her experience matches the position requirements,
- and e-mail contact information for at least three references.

Materials must be submitted electronically to: masdar-faculty-applic@mit.edu specifying the Program Code CIS-F012011 and Program of Interest in the subject line.

NEC Laboratories America

Research Staff Member – Data Management

NEC Laboratories America is seeking outstanding researchers to join our Data Management Department in Cupertino, CA. The current research focus of the group is to create cutting edge technologies for Data Management in the Cloud. For more information on the CloudDB Project see http://www.nec-labs.com/dm/projects.php.

Our researchers work in an environment where they can pursue their passion in exploratory research projects and publishing. They contribute to industrial products and services by working on real-life problems and applying ideas devised from their exploratory research. Our organization is connected and/or affiliated with leading universities, which gives the researchers rich opportunities for collaboration and

Professional Opportunities

TENURE-STREAM FACULTY POSITION
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

The Department of Computer Science and Engineering (CSE) at Michigan State University invites applications for a tenure-stream faculty position in the area of computer vision, image processing, and its applications to biometric recognition. Candidates at all ranks will be considered. The appointment starts in August 2012.

The CSE Department conducts leading-edge research in many areas, with particular strength in software engineering and formal methods, computer networks and security, computer graphics and visualization, bioinformatics and digital revolution, data mining, machine learning and pattern recognition, and natural language processing. The Department's external research awards have nearly doubled in the last couple of years. Multidisciplinary research across a broad range of disciplines is strongly encouraged and is being actively pursued by the faculty. Partnering with several other departments and universities, the CSE Department is a major contributor and plays an important role in the NSF Science and Technology Center for the study of Evolution in Action (BEACON) on our campus.

Candidates should have a Ph.D. in Computer Science or a closely related field with evidence of research accomplishments, teaching skills, and an ability to work effectively with other researchers. The successful candidate will be expected to develop an externally funded research program of national prominence that includes fundamental research, publications in high quality conferences and journals, and training graduate students. Leadership is expected in development of educational programs to provide state-of-the-art knowledge to both undergraduate and graduate students.

MSU enjoys a large, park-like campus with outlying research facilities and natural areas. The greater Lansing area has approximately 450,000 residents. The local communities have excellent school systems and place a high value on education. The University is proactive in exploring opportunities for the employment of spouses, both inside and outside the University.

Candidates should submit an application for this position through: **https://jobs.msu.edu/**. Refer to posting #4905. Closing date is December 1, 2011. Applications will be reviewed on a continuing basis until the position is filled. For full consideration, applications should be received by the closing date.

Faculty Search Committee
Department of Computer Science and Engineering
3115 Engineering Building
Michigan State University
East Lansing, Michigan 48824-1226
https://jobs.msu.edu/

MICHIGAN STATE UNIVERSITY

MSU is committed to achieving excellence through cultural diversity. The University actively encourages applications and/or nominations of women, persons of color, veterans and persons with disabilities.

exploration of wide range of research areas. The current interest areas include new data models, query processing and optimization, resource and workload management, information sharing and collaboration, advanced analytics, and mobile data management.

Candidates must have a Ph.D. (or equivalent) in Computer Science (or related fields) with solid data management background and strong publication record in related areas. Successful candidates are expected to be proactive with a can-do attitude, able to conduct research independently, and must have:

- Deep understanding of data management systems and database internals
- Strong hands-on system building and prototyping skills
- Experience in distributed data management
- Good knowledge of emerging data models and data processing techniques (e.g., Key/Value Stores, Column-Oriented Databases, MapReduce etc.)
- Knowledge of middleware technologies

Experience in Cloud Computing, SaaS, Service Oriented Computing, Mobile Data Management areas is a major plus.

For consideration, please submit your resume and research statement to:

http://www.nec-labs.com/careers/index.php

EOE/AA/MFDV

NEC Laboratories America, Inc.

Research Staff Member – Quantum IT

NEC Laboratories America, Inc. has an opening for a Research Staff Member in the Quantum IT group in Princeton, NJ. We invite applications from world-class candidates with an exceptional track record in quantum algorithms and/or quantum circuits and who are recognized as thought-leaders by the international research community.

The position addresses practical challenges that arise in the design of efficient quantum circuits but also offers a considerable amount of freedom for finding novel quantum algorithms and for interacting with experimental physicists. Publishing is an integral part of our activities as a means for calibrating the quality of our research.

Job requirements:

PhD in computer science, electrical engineering, physics or a related discipline.

Strong publication record in top computer science conferences such as STOC/FOCS/SODA and/or top physics journals such as Science/Nature/PRL.

Solid knowledge in quantum algorithms, quantum information, and quantum circuits.

Hands-on experience in software development and implementation of algorithms (using e.g., C/C++, Java, Matlab, or Octave) and excellent problem solving skills.

Experience in adiabatic quantum computing is a plus.

See http://www.nec-labs.com/research/quantum/quantum-website/index.php for further information about the Quantum IT group. To apply, access our career center at http://www.nec-labs.com/careers/index.php and submit your resume, including a research statement. Please have at least two letters of reference sent to mroetteler@nec-labs.com. Consideration of candidates will start on July 1, 2011 and will continue until the position is filled.

EOE/AA/MFDV

North Dakota State University

Center for Computationally Assisted Science & Technology (CCAST)
Technology Manager-CCAST
HPC Systems
HPC Systems Administrator

The Center for Computationally Assisted Science and Technology at North Dakota State University is seeking two individuals with a proven track record in High-Performance Computing:

Systems Manager (Opening #1100140)

Seeking a Systems Manager for a role of a Technology Manager for CCAST High-Performance Computing Systems. Reporting to the CCAST Director, the Technology Manager – CCAST HPC Systems will have overall responsibility for planning, acquisition, deployment, and maintenance of state-of-the art HPC hardware and software in the CCAST's primary data center. Position is open until filled.

Systems Administrator (Opening #1100166)

Seeking a Systems Administrator for a role of HPC Systems Administrator at CCAST. Reporting to the Technology Manager – CCAST HPC Systems, the HPC Systems Administrator will have responsibility for maintenance and growth of state-of-the art HPC hardware and software resources in the CCAST's primary data center. Screening begins 7/6/2011 and is open until filled.

CCAST, one of the Office of The Vice President for Research, Creative Activities and Technology Transfer centers, is a NDSU leadership-class facility supporting most computationally challenging R&D needs both in the NDSU academic departments and in the NDSU Research and Technology Park. CCAST is also carrying on its own research programs aimed at addressing hard computational problems at the heart of today's scientific and engineering inquiries.

About NDSU - North Dakota State University, Fargo, is notably listed among the nation's top 108 public and private universities in the Carnegie Commission on Higher Education's category of "Research Universities/ Very High Research Activity." With a reputation for excellence in teaching and multidisciplinary research, NDSU links academics to opportunities. As a student-focused, land grant, research institution with more than 14,000 students, NDSU is listed in the top 40 research universities without a medical school in the U.S., based on research expenditures reported to the National Science Foundation.

For further info, quals & to apply, see www.ndsu.edu/jobs (only online applications are accepted) Salary commensurate with experience plus comprehensive fringe benefit package including retirement plan & full coverage for family health insurance. (TTY: 1-800-366-6888)

Human Resources
SGC, 1919 N. University Drive
Fargo, ND 58102
(701) 231-5677

NDSU is an EOI. Women & traditionally underrepresented groups are encouraged to apply.

Oberlin College

Department of Computer Science
Assistant Professor

The Department of Computer Science at Oberlin College invites applications for a fulltime, tenure track faculty position beginning in the fall semester of 2012 in the area of Software Systems (Compilers, Operating Systems, Networks, Databases, or related area).

For information see http://new.oberlin.edu/home/jobs/

Oberlin College is an Equal Opportunity/Affirmative Action Employer with a strong commitment to the development of a climate that supports equality of opportunity and respect of differences based on gender, ethnicity, disability, sexual orientation, and gender identity and expression. We are particularly interested in receiving applications from individuals who would contribute to the diversity of our faculty.

Old Dominion University

College of Sciences - Department of Computer Science
Computer Science – Assistant Professor

The College of Sciences at Old Dominion University is undergoing a major expansion to increase research activities and to support the recruiting of outstanding graduate and undergraduate students. The Department of Computer Science has recently hired a new chair and five new faculty members and is looking to strengthen the Medical Image Computing research group with an Assistant Professor in this area. The position is available as early as Fall, 2011 but a start date of Spring or Fall, 2012 is negotiable.

The candidate must demonstrate the ability to build strong a research program and perform quality teaching. A PhD in computer science or related area is required. The Department is particularly interested in attracting an investigator who can interact and collaborate with researchers in existing departmental research groups in Bioinformatics and Computational Biology, Parallel and High Performance Computing, Wireless Networks, Data Mining, Digital Libraries, or Software Environments and those who can enable further interdisciplinary research and inter-institutional collaborations. The faculty in the Department of Computer Science is well supported by state funds, peer-reviewed grants from NSF, NIH, Library of Congress, NASA, DOD, DOE and other funding agencies and endowment income. The department offers competitive salaries and start-up packages. The Department has a very strong graduate program that awards both MS and PhD degrees and currently has more than 100 graduate students.

Located in Norfolk, Virginia, Old Dominion University (www.odu.edu) is a state supported, research intensive institution enrolling more than 24,000 students of which 6,000 are graduate students. Norfolk is a culturally rich, historic city and a major international maritime center in a metropolitan area of over 1.5 million people. Norfolk is one of the seven cities comprising Hampton Roads, located on the Chesapeake Bay, within a convenient drive from Washington, D.C., Baltimore, Research Triangle Park, NC and Richmond. Eastern Virginia Medical School, NASA Langley Research Center, Thomas Jefferson National Accelerator Facility, and many other government and research facilities are in near vicinity.

Interested candidates should submit a curriculum vitae, a statement of research activities and future research plans, contact information for four references and a statement of teaching philosophy. Electronic applications are preferred and should be sent to searchcommittee@cs.odu.edu. Paper applications can be sent to:

Search Committee
Department of Computer Science
Old Dominion University
Norfolk, VA 23529-0162

Review of applicants will begin immediately and continue until the position is filled.

Old Dominion University is an affirmative action, equal opportunity

Professional Opportunities

institution and requires compliance with the Immigration Reform and Control Act of 1986.

Real-Time Innovations (RTI), Sunnyvale CA

Security Research Engineer

Join our team to develop technology for secure, high-performance data communication.

The position requires a Ph.D. in Computer Science or related field, strong development skills, and US person status.

Please see http://www.rti.com/company/careers/research-software-engineer.html for more information.

Sandia National Laboratories

Postdoctoral Appointee-Computer Science/ Applied Mathematics Researcher

Computer Sciences Group at Sandia National Laboratories/CA is looking for a postdoctoral researcher to work on graph modeling and analysis. A PhD or equivalent in computer science, mathematics, statistics, or a related area is required. Candidates must be able to work in a collaborative research environment and must provide evidence of relevant research expertise in the form of technical publications, presentations, software, and/or knowledge of applications. Other required qualifications include software development competence in C++, Java, MATLAB, or a related language; proficiency in solving problems, and excellent written- and oral-communication skills.

Expertise in graph analysis, graph analysis, statistics, and data mining is desired, as is a background in solving practical problems; encounters with real-world data; and proficiency in software engineering, and high-performance computing experience.

Apply at: http://tinyurl.com/63rquzg for Job Number 638503.

Syracuse University

School of Information Studies

Multiple Positions

Syracuse University's School of Information Studies (The iSchool) is soliciting applications to join its renowned and interdisciplinary faculty. The iSchool will be hiring for multiple positions and welcomes applications from emerging and established scholars.

We seek scholars whose research activities complement and extend those of current faculty members. The iSchool has designated the following three areas for expanding our research capabilities: 1) E-Science, 2) Entrepreneurship and 3) Social Media. E-Science is a broad category that includes technology-supported scientific collaboration, development of digital collections (e.g., digital humanities), access and retrieval tools, and computational social science involving large-scale quantitative data and data analysis skills. Entrepreneurship involves the study or practice of innovation in markets and firms, and the analysis of practices that encourage or discourage the generation of commercially valuable new ideas in information and communication systems. For us, social media studies is a broad field that includes the analysis and study of online social networks, innovative uses of technology and the combinations of social network analysis techniques with other methods to provide new insights into the social, economic and political impact of networked digital technologies and the new forms of organization and interaction formed around them.

The ability to obtain research grants and other external funding sources will be considered a competitive advantage in our evaluations, as will evidence of teaching experience and a strong commitment to teaching excellence. While rank and years of experience for these positions are open, a completed Ph.D. in a relevant field of study is required. This noted, we will also consider outstanding ABDs with a strong expectation of successfully defending their theses by August 2012.

Applicants must submit a cover letter outlining their interests (including the rank they are seeking); a curriculum vitae; a statement describing research and teaching interests and accomplishments; and the names and contact information of at least three references to: www.sujobopps.com. Job #027875. We are interested to learn of the candidate's experiences with innovative teaching approaches, online course delivery, and mastery of technology-oriented course topics core to our several programs. Strong candidates will be contacted and asked to provide research samples and a teaching portfolio or other evidence of teaching experience. Please do not submit these items with the initial application.

We will begin screening applicants on 1 November, 2011 and continue accepting applications until the positions are filled. Given the nature and number of our needs, we expect the search to continue through Spring, 2012. Questions may be directed to the search chair at ijobopps@syr.edu.

Syracuse University is an AA/EOE.

Texas State University-San Marcos

Department of Computer Science

Tenure-Track Position

Applications are invited for a tenure-track position at the rank of Assistant Professor. Applicants must have completed all requirements for a PhD with specialization in software engineering by start of employment. Consult the department recruiting page at http://www.cs.txstate.edu/recruitment/faculty_recruit.php for job duties, qualifications, application procedures, and information about the university and the department.

Texas State University-San Marcos will not discriminate against any person in employment or exclude any person from participating in or receiving the benefits of any of its activities or programs on any basis prohibited by law, including race, color, age, national origin, religion, sex, disability, veterans' status, or on the basis of sexual orientation. Texas State University-San Marcos is a member of the Texas State University System

Toyota Technological Institute Chicago

Faculty Positions at All Levels

Toyota Technological Institute at Chicago (TTIC) is a philanthropically endowed degree-granting institute for computer science located on the University of Chicago campus. Applications are being accepted in all areas, but we are particularly interested in machine learning, speech processing, computational linguistics, Computer vision, computational biology and optimization. Positions are available at all ranks, and we have a large number of three year limited term positions currently available. For all positions we require a Ph.D. Degree or Ph.D. candidacy, with the degree conferred prior to date of hire.

Submit your application electronically at:

http://ttic.uchicago.edu/facapp/

Toyota Technological Institute at Chicago is an Equal Opportunity Employer

University of Chicago

Department of Computer Science

Faculty Positions

The Department of Computer Science at the University of Chicago invites applications from exceptionally qualified candidates in all areas of Computer Science for faculty positions at the ranks of Professor, Associate Professor, Assistant Professor, and Instructor. However, strongest consideration will be given this year to candidates in the following three areas: (1) systems and networking, (2) natural language processing, and (3) theory of computing.

The University of Chicago has the highest standards for scholarship and faculty quality, and encourages collaboration across disciplines. We encourage strong connections with researchers across the campus in such areas as mathematics, natural language processing, bioinformatics, logic, molecular engineering, and machine learning, to mention just a few.

The Department of Computer Science (cs.uchicago.edu) is the hub of a large, diverse computing community of two hundred researchers focused on advancing foundations of computing and driving its most advanced applications. Long distinguished in theoretical computer science and artificial intelligence, the Department is now building a strong Systems research group. This closely-knit community includes the Computation Institute, the Toyota Technological Institute, and Argonne's Mathematics and Computer Science Division.

The Chicago metropolitan area provides a diverse and exciting environment. The local economy is vigorous, with international stature in banking, trade, commerce, manufacturing, and transportation, while the cultural scene includes diverse cultures, vibrant theater, world-renowned symphony, opera, jazz, and blues. The University is located in Hyde Park, a Chicago neighborhood on the Lake Michigan shore just a few minutes from downtown on an electric commuter train.

All applicants must apply through the University's Academic Jobs website. For applicants in:

(1) systems and networking, the LINK is academiccareers.uchicago.edu/applicants/Central?quickFind=51727;

(2) natural language processing, the LINK is academiccareers.uchicago.edu/applicants/Central?quickFind=51728;

(3) the theory of computing, the LINK is academiccareers.uchicago.edu/applicants/Central?quickFind=51729;

(4) all other areas, the LINK is academiccareers.uchicago.edu/applicants/Central?quickFind=51730.

A cover letter, curriculum vitae including a list of publications, a statement describing past and current research accomplishments and outlining future research plans, and a description of teaching experience must be uploaded to be considered as an applicant. Candidates may also post a representative set of publications, as well as teaching evaluations, to this website. The reference letters can be sent by mail to:

Chair, Department of Computer Science
The University of Chicago
1100 E. 58th Street, Ryerson Hall
Chicago, IL. 60637-1581

Or by email to: Recommend@mailman.cs.uchicago.edu (letters can be in pdf, postscript or Microsoft Word).

Three reference letters are required. They need to be need to be mailed or e-mailed to the above addresses and one of them must address the candidate's teaching ability. Applicants must have completed all requirements for the PhD except the dissertation at time of application, and must have completed all requirements for the PhD at time of appointment. The PhD should be in Computer Science or a related field such as Mathematics or Statistics. To ensure fullest consideration of your application all materials, including supporting letters, should be received by November 19. However, screening will continue until all available positions are filled.

The University of Chicago is an Affirmative Action/Equal Opportunity Employer.

University of Chicago

Department of Computer Science

Postdoctoral Scholar - Large-Scale Systems

The Large-Scale Systems Group led by Professor Andrew Chien has several Postdoctoral Scholar positions to lead research in large-scale computing systems. These future global-scale information systems will have billions of elements, exabytes, and endemic impact on social, consumer, commercial, and scientific applications of unprecedented scale. Achieving this extraordinary scale poses research challenges in systems, architecture, networking, and programming.

A recent PhD in Computer Science or related discipline is required.

For further information (http://www.cs.uchicago.edu/people/aachien)

To apply contact Andrew Chien (achien@cs.uchicago.edu)

The University of Chicago is an Affirmative Action / Equal Opportunity Employer.

University of Georgia

Computer Systems Engineering

Assistant or Associate Professor

Full-time academic year tenure-track position at the University of Georgia at the Assistant or Associate Professor rank in Computer Systems Engineering. The ideal candidate will develop a strong research program in the field of embedded systems; collaborate with faculty in related disciplines and industry; teach fundamental engineering undergraduate courses and advanced graduate courses; provide leadership in organizing active participation from the public and industry; and secure extramural funds for research and teaching.

Submit electronically in pdf format a letter of application, curriculum vitae, and statements of research and teaching plans to cse2011@engr.uga.edu. At least four reference letters should be submitted directly to:

Chair, CSE Search Committee
Driftmier Engineering Center
The University of Georgia
Athens, Georgia, 30602-4435

Complete applications with four (4) letters of reference received by September 30, 2011 are assured of consideration. The full position description can be found at:

http://www.engineering.uga.edu/news/positions

For further questions, contact Ms. Patsy Adams (patsy@engr.uga.edu).

EOO/AA institution

University of Massachusetts Amherst

Department of Computer Science

Lecturer

The Department of Computer Science at the University of Massachusetts, Amherst invites applicants for a faculty position at the rank of lecturer. The department seeks individuals with exceptional promise for, or a proven record of, excellence in teaching undergraduate courses. Applicants should hold a graduate degree in Computer Science or Computer Engineering or a closely related field (Ph.D. preferred), and have a strong

Professional Opportunities

interest in teaching, especially curricular materials with an orientation towards practical application.

We are particularly interested in individuals with background and experience in software engineering. The duties of an individual holding this position will include teaching introductory programming courses for majors and non-majors, undergraduate software engineering courses, and other courses within the Computer Science curriculum.

The initial appointment to this position will be for two years, with the possibility of reappointment for subsequent periods. Successful applicants will find the Computer Science Department to be a stimulating environment conducive to professional growth in both teaching and research.

Send curriculum vitae, a description of teaching experience, and three letters of recommendation to:

Chair, Lecturer Search Committee
Computer Science Department
140 Governors Drive
UMass Amherst
Amherst, MA 01003-9264
Email: lecturer@cs.umass.edu
Electronic submissions encouraged

Review of applications will begin August 1, 2011, and continue until the position is filled. The successful candidate will be subject to a background check, including a criminal history check.

The University of Massachusetts is an Affirmative Action/Equal Opportunity Employer. Women and members of minority groups are encouraged to apply.

University of Miami

Department of Computer Science

Tenure-Track Professor

University of Miami invites applications and nominations for a tenure-track assistant or associate professor in the department of Computer Science (http://www.cs.miami.edu/) starting August 2012. Applicants must possess a Ph.D. in Computer Science or in a closely-related discipline with strong research and teaching experience in areas that pertain to multi-agent robotic systems and games or visualization. Applicants must have a proven record of or a strong potential for interdisciplinary collaboration with areas in the arts or sciences outside of Computer Science.

Salary: Competitive. Applicants should submit curriculum vitae, sample preprints or reprints, their research and teaching plans with emphasis on their interdisciplinary expertise. Applicants should provide names and contact information for at least four references. Applications must be submitted online to http://www.cs.miami.edu/search. Applications will be accepted until the position is filled.

The University of Miami is an Affirmative Action/Equal Opportunity University that values diversity and has progressive work-life policies. Women, persons with disabilities, and members of other underrepresented groups are encouraged to apply.

University of Michigan-Flint

Tenure-track Assistant Professor

Comp Science http://www.umflint.edu/csep

Non-discriminatory, Equal Opportunity /Affirmative Action Employer. Women and minorities are encouraged to apply.

The University of Pennsylvania

Department of Computer and Information Science

Lecturer Positions

The University of Pennsylvania's Department of Computer and Information Science invites applicants for two Lecturer positions within our undergraduate and Masters programs. The department seeks individuals with exceptional promise for, or a proven record of, excellence in teaching undergraduate courses. Applicants should hold a graduate degree (preferably a Ph.D.) in Computer Science or Computer Engineering, and have a strong interest in teaching with practical application.

The first lecturer position is to teach introductory programming courses for majors and non-majors. The second lecture position is to teach systems and architecture courses, primarily within the Computer Science Masters program. Positions to start September 1, 2011; January 1, 2012; or September 1, 2012. Applications will be evaluated on a rolling basis until March 15, 2012 or until the positions are filled.

Lecturer positions are for one year, renewable annually up to three years, at the end of which a promotion to Senior Lecturer can be considered. Successful applicants will find Penn to be a stimulating environment conducive to professional growth in both teaching and research.

Please go to www.cis.upenn.edu/facultypositions to apply.

The University of Pennsylvania is an Equal Opportunity/Affirmative Action Employer.

The Penn CIS Faculty is sensitive to "two–body problems" and would be pleased to assist with opportunities in the Philadelphia region.

University of Pennsylvania

Departments of Computer and Information Science (CIS) & Electrical and Systems Engineering (ESE)

Faculty Positions

The University of Pennsylvania invites applicants for tenure-track or tenure appointments in computer engineering to start July 1, 2012. Applicants must have a Ph.D. in Computer Engineering, Computer Science, Electrical Engineering, or equivalent. Appointments at all levels—assistant, associate, and full professor—will be considered and can be made in either department.

The departments seek individuals with exceptional promise for, or a proven record of, research achievement who will excel in teaching undergraduate and graduate courses and take a position of international leadership in defining their field of study. Candidates should have a vision and interest in defining the research frontier and education of next-generation leaders in this rapidly growing field. Of particular interest is the candidate's ability to teach within the new joint CIS/ESE undergraduate program in Computer Engineering.

The departments have undergone a major expansion, including new faculty positions, newly renovated lab facilities and classroom space. Successful applicants will find Penn to be a stimulating environment conducive to professional growth and interdisciplinary collaborative research.

The University of Pennsylvania is an Ivy League university located near the center of Philadelphia, the 5th largest city in the US. In addition to the School of Engineering and Applied Science (SEAS), Penn's urban campus includes its Schools of Arts and Sciences, Medicine, Nursing, Law, Fine Arts, the Wharton School, and the Annenberg School of Communication. The campus and the Philadelphia area support a rich diversity of scientific, educational, and cultural opportunities, major technology-driven industries such as pharmaceuticals, finance, telecommunications, and aerospace, as well as attractive urban and suburban residential neighborhoods.

To apply, please complete the form located on the faculty recruitment web site:

http://www.seas.upenn.edu/cmpe/jobs

Electronic applications are strongly preferred, but hard-copy applications (including the names of at least four references) may alternatively be sent to:

Chair, Faculty Search Committee in Computer Engineering
School of Engineering and Applied Science
University of Pennsylvania
3330 Walnut St., Rm 302 Levine Hall
Philadelphia, PA 19104-6389

Applications should be received by December 15, 2011 to be assured full consideration.

Applications will be accepted until positions are filled.

Questions may be addressed to ce-faculty-search@cis.upenn.edu.

The University of Pennsylvania values diversity and seeks talented students, faculty and staff from diverse backgrounds. The University of Pennsylvania does not discriminate on the basis of race, sex, sexual orientation, gender identity, marital status, religion, color, national or ethnic origin, age, disability, or status as a Vietnam Era Veteran or disabled veteran in the administration of educational policies, programs or activities; admissions policies; scholarship and loan awards; athletic, or other University administered programs or employment. The departments are sensitive to "two-body careers" and would be pleased to assist with opportunities in the Philadelphia region.

University of Washington

The Information School

Tenure-Track Faculty Positions

The University of Washington Information School is seeking three outstanding individuals to fill tenure-track positions in the areas of Information Management and Digital Youth.

Our new colleagues will join a broad-based, inclusive information school. Faculty members teach across programs. University of Washington faculty engage in teaching, research and service. Candidates should show a commitment to bridging research and practice. These are full-time 9 month appointments anticipated at the rank of Assistant Professor or Associate Professor commensurate with qualifications and experience. Applicants must have a Ph.D. or equivalent degree by date of appointment.

The University of Washington is an affirmative action, equal opportunity employer. The University is building a culturally diverse faculty and staff and strongly encourages applications from women, minorities, individuals with disabilities and covered veterans. Applicants may find further information about the UW Information School at ischool.uw.edu.

Application Instructions

Review of applications for Information Management candidates will begin 10/1/2011.

Review of Digital Youth candidates will begin 11/15/2011.

For complete posting and information on how to apply please visit us at http://ischool.uw.edu/jobs/faculty

University of Waterloo

Institute for Quantum Computing

Postdoctoral Fellowships at the Institute for Quantum Computing

The Institute for Quantum Computing is inviting applications for postdoctoral positions in all aspects of quantum information processing, bridging areas from fundamental theory to physical implementations.

Quantum information science aims to develop transformational technologies that harness the power of quantum mechanics. The Institute for Quantum Computing (IQC) is a world-leading institute for research in quantum information at the University of Waterloo. IQC has 17 faculty members whose research programs span the areas of Applied Mathematics, Chemistry, Combinatorics & Optimization, Computer Science, Electrical & Computer Engineering, and Physics & Astronomy. IQC members have the opportunity to interact with other research groups at the university, such as the Centre for Applied Cryptographic Research, as well as with the nearby Perimeter Institute for Theoretical Physics. New infrastructure, including a state-of-the-art nanofabrication and metrology centre, supports an expansion of IQC's experimental research programs. In early 2012, IQC will expand into the new Mike and Ophelia Lazaridis Quantum-Nano Centre, a state-of-the-art facility at the heart of the University of Waterloo campus, which will provide unprecedented opportunities for research, collaboration and innovation.

IQC seeks promising candidates to help advance our understanding of the foundations of quantum information, to develop new quantum applications and algorithms, and to implement these ideas in laboratory experiments and engineered systems. A PhD and proven ability, or strong potential, for excellence in research is required.

To learn more about IQC and for information on how to join as a postdoctoral fellow, please visit the Positions link at iqc.uwaterloo.ca

The preferred deadline for receiving applications is November 15, 2011, but late applications may be considered until positions are filled. Candidates are also encouraged to visit the NSERC website (www.nserc-crsng.gc.ca) to learn about the prestigious Banting Postdoctoral Fellowship.

Please note the very early deadline of November 2, 2011 for Banting fellowship applications; qualified candidates should contact a potential supervisor immediately.