COMPUTING RESEARCH NEWS

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The Computing Innovation Fellows Project: Strengthening the Field in Difficult Times

By Peter Lee, Ed Lazowska, and Anita Jones

In this difficult economic time many Ph.D. graduates would be lost to the research and education track if—due to severely reduced hiring by universities and research labs—they accepted positions that would not permit them to pursue their independent scholarly interests. Doing this would diminish dramatically the possibility of a future research career.

To address this situation, the Computing Innovation Fellows Project (http://cifellows.org) was conceived in February 2009 by CRA's Computing Community Consortium (CCC). The National Science Foundation funded the project, and in just five months 60 new Ph.D. graduates in the computing field were designated to receive fellowships for scholarly appointments at the nation's universities and industrial research labs. In doing so, the project aims to keep the fellowship winners in the research community "pipeline."

Why did the CCC create this project? Our primary concern all along has been the strong possibility that we might lose the full benefit of the investment that the nation has made in educating these individuals—one can only imagine their potential research contributions. Furthermore, increasing enrollments and rising research budgets may soon create pent-up demand for hiring at universities and research labs. As the economy improves and adjustments to new budget realities are made, we can hope that many of these Fellows will be absorbed to fill the demand.

The CCC has the mission to foster the creation of visions for future computing research and to work with funding agencies to turn these visions into reality. In February 2009, members of the CCC envisioned the project and brought it to the attention of the National Science Foundation's CISE Directorate. Realizing the need to act quickly, the CCC wrote a proposal and submitted it to NSF/CISE before mid-March. NSF/CISE, in turn, convened a review panel and responded in less than four weeks with a decision to provide funding for up to 100 Computing Innovation Fellows. Up to 60 CIFellows were authorized for the first year, with the remaining funding to be used for renewals and new awards in subsequent years.

Between March and July, the team worked closely and intensively to make sure that all of the necessary processes would be put in place as quickly and sensibly as possible. In parallel with the NSF review, members of the CCC Council and an ad hoc steering committee, led by Peter Lee, defined the fellowship application process, a selection methodology, and web resources support so that the process could be executed rapidly while retaining a discipline of merit evaluation. A selection committee to review submitted applications was also formed.

The CIFellows Project is in essence a "stimulus program." It was designed to address the extraordinary economic situation as quickly as possible, and ideally in time to help this year's new Ph.D. graduates. NSF on its own could not respond in a timely way. The existence of CCC and the track record that CCC has established gave NSF the confidence to move forward with this project, administered by CCC. When we created the CCC, no one envisioned an economic crisis and no one envisioned the CIFellows Project. Yet, only a community-sanctioned organization outside of government could have executed such a national-scale program on such an extraordinarily tight schedule.

The hallmark of this unusual project is that it is broad-based. This was achieved in three ways. First, awards were made to Fellow/mentor pairs: each candidate Fellow could specify between one and three potential mentors, each of whom submitted a letter describing specific mentoring plans for the candidate. The goal was to ensure a highly productive experience

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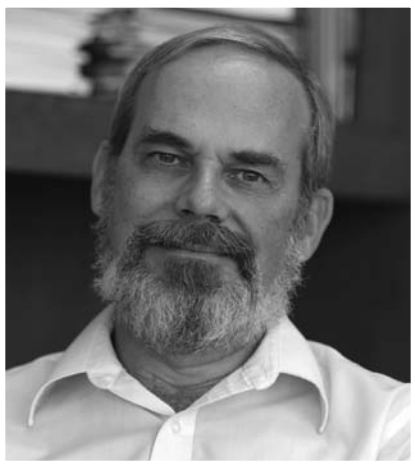
Grimson Approved as New CRA Board Chair



The Computing Research Association's Board of Directors in August approved the appointment of MIT's Eric Grimson as the organization's 21st board chair. He replaces Peter Lee of CMU, who stepped down after accepting an appointment to the Defense Advanced Research Projects Agency (DARPA).

Grimson, who is the Bernard Gordon Professor of Medical Engineering at MIT and head of its Electrical Engineering and Computer Science department, has served on CRA's Board of Directors since 2006 and has been a member of the organization's Executive Committee, Snowbird 2008 Planning Committee, and Faculty Recruitment Timelines Committee. He succeeds Lee, who served just two months of his term before stepping down to accept an appointment to head a new office at DARPA focused on transformational research.

CRA's vice-chair, Laura Haas of IBM Research, in her role as acting chair and in consultation with CRA's Elections and Executive Committees, appointed Grimson to serve out the remainder of Lee's two-year term. The Board of Directors approved Grimson's appointment on August 17.

In accepting his appointment, Grimson noted that the need for an organization like CRA was strong. "Virtually every CS department in the country is facing significant challenges: slow or no gains in diversity of students and faculty, an altered and more restrictive research funding landscape, and myriad financial pressures," he said. "CRA can and has served an important role in addressing these issues: by providing an impartial voice for CS to the government, by articulating best practices, by coordinating efforts to improve the image of computing, and by building ties to key industrial partners."

"I would like to continue to help drive CRA initiatives to strengthen the outreach of every CS department to attract, support and retain a broader array of students," Grimson said.

In addition to his work with CRA, Grimson is a Fellow of the American Association for the Advancement of Artificial Intelligence and a Fellow of the IEEE. His research interests include computer vision, medical image analysis, image-guided surgery, and machine learning applications in vision and medical image analysis. His current term as chair will end in June 2011, when he will be eligible for reelection. ▮

Computing Research Association

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Expanding the Pipeline

Engaging High School Students in Interdisciplinary Studies through the Computational Linguistics Olympiad

By Dragomir Radev and Lori Levin

Introduction

The United States and Canada have been facing a reduction in enrollments in computer science courses and a drop in the number of offerings of high school courses in computing and related subjects.

In this report, we will discuss a recent attempt to reinvigorate the stream of high school students interested in this topic. We hope that more students will become interested in computer science if they can pursue interesting applications than if they are only learning to program for its own sake. With this goal in mind, the North American Computational Linguistics Olympiad (NACLO, http://www.cs.cmu.edu) has been held in the United States and Canada since 2007. Its purpose is to attract high school students to studies and careers that involve linguistics, computation, and human language technologies. Problems are self-contained and can be solved without special, pre-existing knowledge. The contest is targeted at high school students, but middle school students are also invited to participate.

Problem Design

NACLO includes problems in both traditional linguistics and computational linguistics. The *traditional problems* are in the style of the International Linguistics Olympiad (ILO) and include deciphering texts in lesser-known languages (such as Aymara from Bolivia, Hmong from Cambodia, and Huishu from India), as well as number, kinship, and calendar systems. We have collaborated closely with colleagues in linguistics departments to collect original problems in this genre.

The *computational linguistics problems* are the most innovative component of the contest. Since both of us are computational linguists, we have been able to engage a number of colleagues in suggesting problems as well as drawing from the literature. So far, we have included problems in parsing, optical character recognition, text summarization, information answering, spelling correction, lexical acquisition, speech processing, and finite state automata.

All 33 problems used in the three editions of NACLO have been entirely self-contained. Since linguistics and language technologies are not taught in high schools (unlike the subjects of the other five major international Olympiads in Mathematics, Physics, Chemistry, Informatics, and Biology), we could not and did not expect students to have any prior preparation. Instead, our problems, while requiring some intuition about language (in general; not any particular language), can be solved by logical and algorithmic thinking alone. The specific skills needed, for both the traditional and computational problems, are search space formulation, search, data abstraction, dealing with incomplete and contradictory evidence, generalization, and so on.

Participation in NACLO

The contest consists of two rounds each year: an open round and an invitational round. Table 1 shows the number of participants in each of the last three years. The participants in NACLO have come from almost 30 states and several Canadian provinces. We estimate that about 49 percent of the participants are female. The top participants have come in roughly equal numbers from public schools and from private schools.

One important early decision that contributed to the popularity of NACLO was to hold the contest in a distributed fashion at a large number of high school sites and university sites. University sites provide a place for students from many high schools to come together and meet other students with similar interests. University sites may also offer demos and presentations on the day of the contest. At the same time, allowing high school sites makes it possible for any interested student, no matter how far from a university, to take part in the contest.

In the next two years we plan to expand the contest to include automatically gradable problems as well as problems that require a computing environment. Also, since production of problems is labor intensive, we are collaborating with other English-speaking countries, such as Australia, Ireland, India, and Great Britain, to produce and share a larger collection of problems in English. Each of these countries will participate separately in the International Linguistics Olympiad (see below).

Outreach to High Schools

NACLO is publicized in various ways in the cities in which it is held, usually by direct contact with high schools or through newspaper articles. Faculty who host NACLO at their university usually visit local high schools to provide training sessions and register students for the contest. When publicizing NACLO in high schools we have been focusing on certain aspects of linguistics and computer science. With respect to linguistics, we emphasize that languages have rules and patterns that native speakers may not be aware of; that there are procedures by which these rules and patterns can be discovered in one's own language; and that the same procedures can be used to discover rules and patterns in languages other than one's own. We use computational linguistics as a way to emphasize that computer science is not just about machines or code, but also about how to structure and solve a problem. We then introduce some challenging problems in language technologies such as web search, telephone dialogue systems, speech recognition, and machine translation.

Sponsorship

NACLO has been sponsored primarily by the National Science Foundation and other government agencies, as well as companies such as Google and Cambridge University Press, local sponsors, the North American Chapter of the Association for Computational Linguistics, and individual donors. Our universities, Carnegie Mellon University (for Levin) and the University of Michigan (for Radev), have also strongly supported our involvement with the contest.

International Linguistics Olympiad

The eight highest-scoring students in NACLO each year have been invited to be part of the US teams that participated in the International Linguistic Olympiads (ILOs) held in Russia (2007), Bulgaria (2008), and Poland (2009). As of the time of writing this material, Sweden, the USA, and Slovenia are likely to host the international contest in the

Expanding the Pipeline
Continued on Page 4

Table 1: Statistics about the First Three Years of NACLO

Year	Open round participants	Invitational round participants	Number of sites	Performance at the ILO	Best individual student at the ILO
2007	195	n/a	3 univs, 20 schools	4 prizes	Adam Hesterberg from Garfield HS, Seattle, WA
2008	763	115	12 univs, 30 schools	11 prizes	Hanzhi Zhu from Shrewsbury HS, Mass.
2009	1,080	135	27 univs, 65 schools	7 prizes	Rebecca Jacobs from Harvard-Westlake HS, Los Angeles, CA

A Transition

By Peter Lee

It's been a great honor—not to mention a lot of fun—to serve on the Board of Directors of the Computing Research Association. My participation on the board has been truly fulfilling, in large part because the importance of CRA to the computing research community has grown markedly in recent years, and also because of the many great colleagues I've met along the way. Now, as the Board Chair, I have come to understand fully how much CRA has accomplished in recent years and how many great opportunities it has to make a difference for the community. I think we really have a bright future ahead of us.

All of this, of course, has made my recent decision to resign from the CRA Board all the more difficult. I will be leaving my position as Board Chair, as well as taking a leave from my faculty appointment at Carnegie Mellon University, to start a two-year stint at Defense Advanced Research Projects Agency (DARPA). As a new office director at DARPA, my new job will be to create new opportunities for research, thereby strengthening both the research community and our nation's defense. Of course, I am also hoping that I will be able to contribute to DARPA's desire to strengthen its ties with academic researchers. Indeed, my appointment to this post is at least one sign that DARPA is serious about this.

The decision to do this was difficult for me. I have been truly happy and proud to be the CRA Board Chair and I am very excited by the many opportunities that lie ahead for CRA. We are able to engage in an incredibly impressive range of important advocacy activities. Unfortunately, since part of CRA's advocacy involves working with funding agencies to help foster programs for funding computing research, it is necessary for me to step down. By the time this issue of CRN hits the presses, the Board, led by its Executive Committee, will have selected a new Board Chair.

Although I have presided over just one meeting of the Board, I have appreciated all of the support from Board members and other members of the research community. And while I won't be on the CRA Board any longer, I am still as dedicated as ever to service to the community—it's just in a slightly different capacity now. I'm sure that many of you will be hearing from me. ∎

NetSE Council Announces Networking Research Agenda

The Network Science and Engineering (NetSE) Council of CRA's Computing Community Consortium, led by Georgia Tech's Ellen Zegura, released an agenda for networking research at the GENI Engineering Conference in Seattle in late July.

CCC charged the NetSE Council with developing a comprehensive research agenda that would support the development of better networks. Through a series of workshops and a tremendous amount of community input, the NetSE Council evolved the current draft. "Literally hundreds of researchers contributed to the agenda—by participating in workshops, authoring sections, and reviewing the overall document," says Zegura. "While probably no one endorses every word, this deep engagement speaks to the entire research community's appreciation of the importance of ratcheting up networking research, and better supporting experimental efforts, long-term foundational efforts, and interdisciplinary efforts."

The NetSE Research Agenda includes four major recommendations:

1. The funding agencies of the United States government must increase investment in research that will lead to a better Internet or risk a marginal future role.
2. Funding agencies should rebuild the experimental capabilities of networking researchers, through funding individual systems-building efforts, providing adequate and persistent shared experimental infrastructure, and supporting research that leads to continued improvements in experimental methodology. Experimental work is expensive and long-term; typical NSF awards are insufficient, therefore either NSF will need to change its award portfolio or other agencies will have to play a significantly increased role.
3. Funding agencies should foster and support research activities relevant to network design within the theoretical computer science community, the new Network Science community, and other theoretical disciplines.
4. Funding agencies should support a broad array of interdisciplinary research activities related to understanding the current Internet and designing future networks to include the Internet.

The NetSE Research Agenda is not an endpoint, according to Zegura, but a "living document" that is intended to evolve over time. It is meant to serve as a framework or structure within which various research communities can advocate and pursue specific topics.

More information on the NetSE effort and the full version of the report are available at http://www.cra.org/ccc, which also includes an email address for commenting on the report. ∎

A National Roadmap for Robotics

By Henrik I Christensen

Over the last year, as part of CRA's CCC program, a group of researchers has formulated a national roadmap for robotics.

Robotics programs over the past decade have been scattered across agencies with little or limited cohesion. In 2006, a group of senior community members requested support from the Computing Community Consortium (CCC) to generate a roadmap that would address not only basic research, but national needs ranging from basic research to industrial needs. A series of four workshops were organized during the summer of 2008 to formulate the roadmap. Topics covered application domains, including: 1) Manufacturing, Automation and Logistics; 2) Service Robotics; 3) Medical and Healthcare Robotics; and 4) Emerging Applications and Technologies.

More than 140 people from industry, national laboratories and academic institutions participated in the discussions. Attendees were selected based on an open call for proposals/ideas (~2 pages) that were reviewed by workshop organizers. The workshops were organized to identify major application/economic drivers, obstacles to progress, and required R&D to remove/address obstacles and generate real progress. Workshop results were recorded in topical summary reports. Initially these reports were made available to participants for comments, and later to the broader research community requesting input and feedback.

An editorial group composed of the workshop organizers has compiled the roadmap. The complete report was also made available for community feedback. The final roadmap and the associated workshop reports are available at the community website—http://www.us-robotics.us

It is clear from the report that there are a number of opportunities to exploit robotics for the economic growth in manufacturing which is essential for continued economic growth. At the same time, it is clear that society is facing major challenges resulting from changes in our demographics. Robotics will play an important role as Quality of Life technology to ensure that people can retain autonomy and gain access to necessary medical services. Increasingly our economy is based on service industries and transformative processes; even here there is use for robot technology. However, to have an impact in these areas there is a need for progress on a number of component technologies such as perception systems, hybrid control, human-robot interaction, and others. The relationship between application domains, core competencies and basic R&D challenges is included in the national roadmap.

As part of the rollout strategy for the roadmap, a national leadership panel in robotics has been created with participation of academic leaders from more than fifteen leading academic institutions, chaired by the Presidents of Carnegie Mellon University and the Georgia Institute of Technology. In addition, a Congressional Caucus on Robotics has been organized by Congressmen Doyle and Gingrey.

On May 21, 2009, the findings of the roadmap report were presented to the Congressional Caucus. The session included presentations from the process leader, Henrik Christensen; a presentation about manufacturing from R. Brooks, MIT/Heartland Robotics; a presentation on medical robotics from Dan Jones, Intuitive Surgical International; and a presentation on service robotics from Eric Close, Red Zone Robotics.

As a follow-up, efforts are underway with several government agencies to determine the best strategy for implementing the national roadmap described in the report.

Henrik I Christensen *is the KUKA Chair of Robotics at the Georgia Institute of Technology.* ∎

Science Funding Faring Well in Budget Process
But Appropriations Still a Long Way from Complete

By Peter Harsha

As Members of Congress returned to their districts for the month-long August Congressional Recess, they left an appropriations process on pace to deliver federal science agencies significant budget increases in FY 2010. While the process is far from complete—and much could potentially happen to derail it—the milestones reached so far suggest that Congress intends to hold true to their oft-stated pledge of doubling the budgets for some key federal science agencies over the next several years.

At the August recess, both the House and Senate had made progress on two key funding measures that include appropriations for federal science agencies: the Commerce, Justice, Science (CJS) appropriations bill, which includes funding for the National Science Foundation, the National Institute for Standards and Technology, the National Oceanic and Atmospheric Administration, and the National Aeronautics and Space Administration; and the Energy and Water appropriations bill, which includes funding for the Department of Energy's Office of Science. In addition, the House had acted on Defense appropriations, which includes funding for Department of Defense science efforts.

While the proposals differ somewhat in the details, both the House and Senate would provide significant increases for NSF, NIST and DOE's Office of Science in the coming fiscal year. In addition, the House has approved somewhat smaller increases for the DOD efforts in basic and applied research.

The House version of the CJS bill (approved by the House by a 259-157 margin) would fund NSF at $6.93 billion in FY 2010, an increase of 6.9 percent (or $446 million) over the agency's FY 2009 appropriation, but slightly less than the $554 million (or 8.5 percent) increase requested by the Administration. Though the full Senate had not yet acted on their version of the bill, the Senate Appropriations Committee did approve an increase of $426 million for the agency, an increase of 6.6 percent.

The bulk of the increase provided to NSF by both chambers would be directed to NSF's Research and Related Activities (R&RA) account, which is the home of the research directorates, including the Computing and Information Science and Engineering (CISE) directorate responsible for most of the agency's investment in computing research. The House bill would boost the R&RA account by $459 million or 8.9 percent over FY 2009. The Senate version would provide an increase of $435 million, or 8.4 percent. Both levels fall somewhat short of the Administration's requested increase of $550 million, or 10.6 percent.

Slated for a smaller percentage increase is NSF's Education and Human Resources account (EHR). In their bill, the House approved a 2.1 percent increase, or $17.6 million over FY 2009, while the Senate Appropriations Committee approved an increase of 1.5 percent (or $12.5 million), the same as requested by the Administration.

Also included in the CJS bills—and of note to the computing community—are the increases provided to NIST's research activities. Both the House and Senate approved increases to NIST's Scientific and Technical Research and Services account (STRS), though at varying levels. The House approved an increase of 8.1 percent, or $38 million to STRS for FY 2010. The Senate Appropriations Committee approved a slightly more generous increase of 10.2 percent, or $48.3 million. However, both levels fell short of the Administration's requested increase of 13.3 percent, or $62.6 million.

Both the House and Senate have approved versions of the FY 2010 Energy and Water Appropriations Act that would provide small increases to the Department of Energy's Office of Science next year. Though not as generous as the increase of nearly 19 percent the agency received in FY 2009, they should continue to keep the agency on a path to double its budget over the next six years (using FY 2008 as a baseline). In the FY 2010 bill, the House approved an increase of 3.9 percent for DOE's Office of Science, or $186 million over FY 2009—about equal to the increase requested by the Administration. The Senate was again slightly less generous, approving an increase of just 3.0 percent, or $141 million.

Included is an increase for the DOE's Advanced Scientific Computing Research program (ASCR). The House approved the Administration's requested increase of 10.9 percent for ASCR, or 40.2 million over FY 2009. The Senate approved an 8.2 percent increase, or $30 million.

A third key bill for federal science funding is the FY 2010 Defense Appropriations bill. As Congress recessed for August, only the House had completed deliberations on the bill, approving an increase for defense basic research, but a slight decline for applied research accounts. For aggregate 6.1 basic research (that is, basic research accounts across the defense research agencies), the House approved a 4.8 percent increase, or $89 million over FY 2009. However, aggregate 6.2 applied research would shrink 3.6 percent, or $186 million, in FY 2009 in the House plan. Overall, defense-wide science and technology (that is, basic, applied and advanced technology development research at all defense research labs and agencies, including DARPA), would grow 2.4 percent, or $141 million, under the House plan. The Administration requested a slight decline of 1.3 percent, or $75 million, for the same account.

Congress will reconvene in September and high on the agenda will be the completion of the appropriations process. Nominally, the goal of the congressional leadership is to see each of the 13 annual appropriations bills enacted before the end of the current fiscal year on September 30. However, this goal is rarely realized—last year's appropriations process, for example, was completed this February, and the FY 2008 process was wrapped up the day after Christmas 2007. But for the first time since the early years of the Clinton Administration, the leadership of both chambers of Congress and the President are all of the same party, which should, in theory, make passage of these appropriations bills progress more smoothly. Indeed, with Al Franken (D-MN) now seated as Minnesota's junior senator, Democrats in the Senate have a filibuster-proof majority in that chamber, making progress theoretically even easier.

Still, even with strong majorities, the appropriations process is in no sense a done deal. Much can happen between now and October 1 to thwart the seemingly smooth path to passage these bills appear to have. Congress could get mired in the debate over the controversial plan to reform U.S. health care, or developments in the wars in Iraq and Afghanistan—or an attack on the U.S.—could alter congressional plans considerably. But for now, it appears the consensus prognosis within the advocacy community for the appropriations process—and how U.S. science agencies will fare—remains reasonably positive. Congress may not wrap up its appropriations business by October 1, but it seems likely that when it does finish, it will include healthy increases for some of the agencies the computing community cares most about.

For all the latest details, check with CRA's Computing Research Policy Blog at http://cra.org/blog. ■

Expanding the Pipeline from Page 2

near future. The ILOs have been in existence since 2003, but US teams started taking part in them only in 2007.

In 2007, the US team won a gold medal for the highest score at the individual contest (Adam Hesterberg) and one of the US teams (Josh Falk, Rebecca Jacobs, Michael Gottlieb, and Anna Tchetchetkine) tied with one of the teams from Russia for first place at the team contest. In 2008, the US team was even more successful, bringing home one gold medal (Hanzhi Zhu), two silver medals (Morris Alper and Anand Natarajan), and three bronze medals (Rebecca Jacobs, Guy Tabachnick, and Jeffrey Lim), as well as a first place (tied) in the team contest (Morris Alper, Rebecca Jacobs, Jae-kyu Lee, and Hanzhi Zhu). In 2009, the US team obtained, for the third time in a row (and for the first time, without tying another team), the team gold (Rebecca Jacobs, Anand Natarajan, Alan Huang, and Morris Alper) as well as one individual silver (Rebecca Jacobs) and three bronzes (John Berman, Sergei Bernstein, and Alan Huang).

Out of a total of 18 team members over the last three years, three have gone or are going to Princeton and three to MIT. The University of Chicago and Stanford are getting two each and the rest of the graduating students will be attending CalTech, Cornell, Harvard, and the University of Washington. The other four have not graduated yet. Most of these students are majoring in Mathematics, Computer Science, Languages, and Linguistics, or some combination of these fields.

The web site for NACLO is www.naclo.cs.cmu.edu. The site includes information about recent NACLOs and about 300 sample problems, as well as information about starting clubs in high schools, future participation, and hosting new sites.

Dragomir Radev *is an Associate Professor at the University of Michigan in the School of Information, the Division of Computer Science and Engineering, and the Department of Linguistics.* ***Lori Levin*** *is an Associate Research Professor at the Language Technologies Institute at Carnegie Mellon University.* ■

New CRA Members

CRA is pleased to welcome the National Security Agency as a new Supporting Member

2010 CRA Award for Outstanding Undergraduate Researchers Deadline October 13

The Computing Research Association is pleased to announce the 16th annual CRA Award for Outstanding Undergraduate Researchers program, which recognizes undergraduate students in North American universities who show outstanding research potential in an area of computing research. Students must be enrolled as undergraduates in academic year 2009-10 to be eligible.

Nominees must attend a university or college located in North America, and 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 for the Outstanding Undergraduate Researchers program in alternate years. MERL is the 2010 sponsor.

Additional information about the nomination procedure and criteria for selection are available on the CRA website: http://www.cra.org. All nominations must reach CRA by October 13, 2009. ▮

2009 Undergraduate Researchers Awards Presented

CRA's Outstanding Undergraduate Researchers Awards were presented in three venues this year.

The male and female winners, **Tal Rusak** (Cornell) and **Raluca Ada Popa** (MIT), respectively, received their awards in Boston at the 6th USENIX Symposium on Networked Systems Design and Implementation on April 22, 2009. CRA board member, Dick Waters (President and CEO of Mitsubishi Electric Research Labs) made the presentations.

At Utah State University, **Arthur Mahoney,** Runner-Up for the male award, received his award from Donald H. Cooley, Professor and Head of the Computer Science Department.

At an awards luncheon at the University of Virginia, CS Department Chair Mary Lou Soffa presented CRA awards to female Runner-Up Erin Carson and Rachel Miller, a female Finalist.

Photo Credit: USENIX

(l to r): Tal Rusak, Dick Waters, Raluca Ada Popa, and Jennifer Rexford, former CRA board member and co-chair of the NSDI symposium.

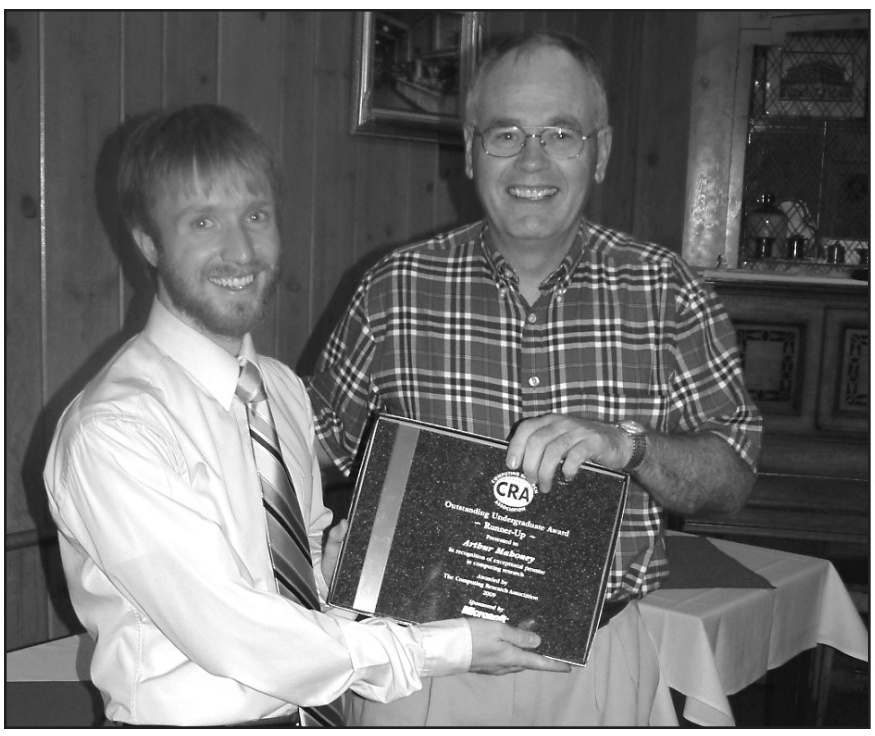

Photo Credit: Dan Watson, UST

Arthur Mahoney, on the left, receives his award from Donald Cooley.

New CRA Board Members

Recently elected and appointed board members are pictured above at the board meeting in Palo Alto on June 17-18. Back row, (l-r), CRA Executive Director, Andy Bernat; Rangachar Kasturi, University of South Florida (IEEE-CS rep); Jon Turner (Washington University in St. Louis); Rob Schreiber, HP Labs (SIAM rep); H.V. Jagadish (University of Michigan); CRA Board Chair, Peter Lee. Front row, (l-r) Mary Fernandez, AT&T Labs Research (ACM rep); Sarita Adve (University of Illinois, Urbana-Champaign); and Margaret Martonosi (Princeton University).

Grace Hopper Celebration of Women in Computing

"Creating Technology for Social Good"

September 30 - October 3, 2009
JW Marriott Starr Pass Resort

Tucson, Arizona

Registration Open
See: http://www.gracehopper.org/

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, 2009.**

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 8, 2010,** from the nominations received, the Elections Committee will announce its candidates for the ballot.
- **On February 8, 2010,** 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.

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. Questions about the nomination and election process, as well as requests for a nomination form, can be sent to elections@cra.org. ***Nominations must reach CRA by December 2, 2009.*** ▮

National Science Foundation Graduate Research Fellowship

(http://www.nsf.gov/grfp)

The National Science Foundation (NSF) Graduate Research Fellowship Program (GRFP) provides three years of graduate school support for students in the early stages of their graduate career who are seeking research-based master's or PhD degrees in NSF-supported disciplines. Awardees receive a $30,000 annual stipend, a $10,500 annual cost of education allowance, a one-time $1,000 international travel allowance, and access to TeraGrid supercomputing facilities.

Applicants should have completed no more than 12 months of graduate study and must be U.S. citizens, U.S. nationals, or permanent residents prior to the application deadline date. Women, minorities, and persons with disabilities are strongly encouraged to apply for the GRFP. The application period will open in August online at www.fastlane.nsf.gov/grfp/ and **will close in early November.** For more information concerning benefits, eligibility, and tips on applying, applicants are encouraged to visit www.nsfgrfp.org.and www.nsf.gov/grfp/. Faculty with significant research experience and interaction with graduate students are encouraged to register as panel reviewers for the NSF GRFP at http://panelists.asee.org ▮

Distinguished Service Award Presented

Eugene Spafford (r), Purdue University, receives the CRA's Distinguished Service Award 2009 from CRA board chair, Peter Lee. The presentation was made at the ACM Awards Banquet in San Diego on June 27.

January 29 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 2010.

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.projects.html

Nomination Procedures (for both awards)

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 **January 29, 2010.**

Current members of the CRA Board of Directors (http://www.cra.org/main/cra.people.board.html) are not eligible for these awards, nor can they submit nominations or letters of support for nominees. ▮

CRA CONFERENCE AT SNOWBIRD 2010

Reminder To:

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

Snowbird Resort, Utah—July 18-20, 2010

Mark Your Calendars Now—Plan to Attend

CRA Hosts Tisdale Fellow

Once again CRA was pleased to welcome a 2009 Tisdale Fellow as a summer intern.

Nathan Gandomi, who will complete a Master's degree in Information Management and Systems at UC Berkeley next spring, spent eight weeks working closely with the government affairs staff, learning the ins and outs of science and technology policy in Washington and participating in activities with Fellows in other host offices.

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 the Business Software Alliance; Dell Computers; e-Luminate Group, Inc.; Hewlett-Packard; and Mehlman Vogel Castagnetti, Inc., Technology CEO Council, and TechAmerica.

On July 16, CRA hosted a luncheon for the Fellows, after which government affairs director, Peter Harsha, provided a brief overview of CRA's government affairs activities. ∎

Photo Credit: CRA Staff Photo

Front row (l to r): Kate Gallup (University of Michigan, PhD student in material sciences); Janice Mau (Stanford University, sociology); and Lauren Smith (Ewha University, Seoul, S. Korea, Master's in International Studies).

Back row (l to r): CRA Fellow, Nathan Gandomi (UC Berkeley, Master's of Information Management and Systems); Danielle Liffman (University of Michigan, Public Policy); Andres Carriedo (George Washington University, Master's in Public Policy); and Ron Li (Northwestern, starting medical school).

Transitions, Awards and Honors

Ron Eglash, Associate Professor in the Department of Science and Technology Studies at Rensselaer Polytechnic Institute, assumed the chairmanship of the Coalition to Diversify Computing (CDC) as of July 2009.

Former CRA board member **Jim Horning,** previously at SPARTA, has recently joined a new company, Advanced Elemental Technologies.

Henry Kelly, President of the Federation of American Scientists since 2001, has recently been named Principal Deputy to Cathy Zoi, Assistant Secretary for Energy Efficiency and Renewable Energy, who reports to the Under Secretary of DOE.

Professor Dianne Martin has been appointed The George Washington University Associate Vice President for Graduate Affairs. Martin was previously chair of the CS Department at GWU and more recently Dean of the College of Information Systems, Zayed University Dubai, United Arab Emirates.

Bob Sproull, Vice President and Fellow at Sun Microsystems, was appointed chair of NRC's Computer Science and Telecommunications Board, effective July 1, 2009. Dr. Sproull is a member of the CCC Council and former CRA board member. ∎

CRA Career Mentoring Workshop

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

February 22-23, 2010, in Washington, DC

Details: http://www.cra.org

CRA-W Honors Kim Hazelwood with Borg Early Career Award

The Committee on the Status of Women in Computing Research (CRA-W) recently presented its 2009 Borg Early Career Award to Kim Hazelwood, Assistant Professor of Computer Science at the University of Virginia. The award was presented by Kathryn McKinley, University of Texas at Austin, at the International Symposium on Computer Architecture (http://isca09.cs.columbia.edu/).

The award honors the late Anita Borg, who was an early member of CRA-W and an inspiration for her commitment to increasing the participation of women in computing research. This award is given annually by CRA-W to a woman in computer science and/or engineering who has made significant research contributions and who has contributed to her profession, especially in the outreach to women. This award recognizes work in areas of academia and industrial/government research labs that has had a positive and significant impact on advancing women in the computing research community, and is targeted at women who are relatively early in their careers (for example, for the 2009 award, the nominee should have received her PhD no earlier than September 2000). Questions about eligibility should be directed to craw_awards[at]cra.org. The deadline for 2010 nominations is *February 15, 2010.*

Kim Hazelwood is an Assistant Professor of Computer Science at the University of Virginia. She works at the boundary between hardware and software, with research efforts focusing on computer architecture, run-time optimizations, and the implementation and applications of virtual execution environments. She received the Ph.D. degree in computer science from Harvard University in 2004 after spending four summers and one post-doc in industry working for Hewlett-Packard, IBM Research, and Intel on well-known projects related to dynamic optimization, including Dynamo, DELI, Jikes RVM, and Pin.

Since 2004, she has become widely known for her active contributions to the Pin dynamic instrumentation system, which allows users to easily inject arbitrary C++ code into existing program binaries at run time (www.pintool.org). Pin is widely used throughout industry and academia to investigate new approaches to program introspection, optimization, security, and architectural design. It has been downloaded over 30,000 times and cited in more than 350 publications since it was released in July 2004.

Kim has published more than 25 peer-reviewed articles relating to the interface between hardware and software. Since joining the University of Virginia in 2005, she has also taught six courses related to compilers, virtual machines, and computer architecture, while advising six Ph.D. students. She has organized and presented nearly a dozen tutorials on binary instrumentation at conferences, universities, and companies. She has served on over a dozen program committees, including PLDI, ISCA, MICRO, and PACT, and is the program chair of CGO 2010.

Kim is also dedicated to supporting and advancing women and minorities in computing, having served as a regular speaker and organizer at conferences and workshops sponsored by CRA-W and the Coalition to Diversify Computing (CDC), and as one of the founding members of UVA's Computer Science Diversity Committee. Kim is the recipient of numerous awards, including the FEST Distinguished Young Investigator Award for Excellence in Science and Technology, an NSF CAREER Award, a Woodrow Wilson Career Enhancement Fellowship, and research awards from Microsoft, Google, NSF, and the SRC. Her research has been featured in Computer World, ZDNet, EE Times, and Slashdot. ∎

Kim Hazelwood (left) received the CRA-W Borg Early Career Award 2009, presented by Kathryn McKinley.

The Computing Innovation Fellows Project from Page 1

for both the Fellow and the mentor; the quality of these plans had a major influence on selection. Second, no more than two fellowship awardees could have earned their Ph.D. from the same university, and no more than two awardees could go to the same organization (university, industry, laboratory or not-for-profit organization). We had two goals in mind here: to ensure broad participation, and to build bridges by means of the CIFellows between diverse institutions. Third, we encouraged diversity of other forms—not only of institutions, but of research areas, individuals, and so on.

Interest in the CIFellows Project was extraordinary. In all, 526 valid applications were received. More than 1,300 established researchers registered as potential mentors. Evaluation of the applications was performed by a committee chaired by Peter Lee. The committee consisted of an ad hoc selection committee of 24 members plus a subset of the CCC Council members. In a show of remarkable responsiveness, all of the reviewing was performed in less than four weeks. Every reviewer completed all of his or her assigned reviews on time, and all 526 valid applications received multiple reviews. Final approval of awards was given by the steering committee with oversight by the CCC Council. The Fellows were selected on July 7, 2009 and the awardees were given preliminary notice on July 10. Final approval was given by NSF for these selections on July 29.

The 60 CIFellows awardees were educated at 43 distinct colleges and universities and will be mentored at 48 different organizations. Among the fellows, 40% are women; 11% are African American, Hispanic American, or Native American; and just over 70% are US citizens or permanent residents. Their scholarly interests span a wide range of subdisciplines, from core computer science research to computational science to computing education. In sum, this is a remarkably accomplished, promising, and diverse group. Fellows were paired with mentors who should be able guide them effectively.

Several years from now the community can evaluate whether the CIFellows Project met its several ambitious goals: to maintain an impressive group of researchers in the research and education "pipeline," to build bridges between computing researchers and computing research organizations with differing characteristics, and by doing this, to contribute to the long-term intellectual vitality of the field. We are planning to hold a session on the project at the next CRA Conference at Snowbird.

Peter Lee *(Carnegie Mellon University) and* **Anita Jones** *(University of Virginia) are CCC Council Members;* **Ed Lazowska** *(University of Washington) chairs the CCC Council.*

The computing research community thanks the following non-board members and former board members who served on CRA committees in 2008-09.

Nancy Amato (Texas A&M University)
Jon Bashor (Lawrence Berkeley National Lab)
Wayne Bennett (ECEDHA)
Nina Berry (Sandia National Labs)
Peter Bloniarz (University of Albany)
Ron Brachman (Yahoo! Research)
Eric Brittain (MIT)
Carla Brodley (Tufts University)
Randy Bryant** (Carnegie Mellon University)
Sheila Castañeda (Clarke College)
John Cavazos (University of Delaware)
Allison Clark (University of Illinois, Urbana-Champaign)
Joanne Cohoon (University of Virginia)
Anne Condon** (University of British Columbia)
Jan Cuny** (National Science Foundation)
Ron Cytron (Washington University in St. Louis)
Faith Ellen (University of Toronto)
Bill Feiereisen (Los Alamos National Laboratory)
Kathleen Fisher (AT&T Labs)
Jim Foley** (Georgia Institute of Technology)
Jeffrey Forbes (Duke University)
Joan Francioni (Winona State University)
Susan Graham (UC Berkeley)
Jose-Marie Griffiths (University of North Carolina, Chapel Hill)
Vijay Gurbaxani (UC Irvine)
John Guttag** (Massachusetts Institute of Technology)
Pat Hanrahan (Stanford University)
Jessica Hodgins (Carnegie Mellon University)
Jim Horning** (Advanced Elemental Technologies, Inc.)
Mary Jane Irwin** (Penn State University)
Chris Johnson (University of Utah)
Sandra Johnson** (IBM)
Anita Jones (University of Virginia)
David Kaeli (Northeastern University)
Robert Kahn** (CNRI)
Sid Karin** (UC San Diego)
Dick Karp (UC Berkeley)
Randy Katz** (UC Berkeley)
Henry Kelly (Federation of American Scientists)
Geoff Keunning (Harvey Mudd College)
Maria Klawe** (Harvey Mudd College)
John King** (University of Michigan)
Clement Lam (Concordia University)
Susan Landau (Sun Microsystems Laboratories)
Phoebe Lanear (Southern Illinois University)
Cynthia Lanius (Bell South)
Tessa Lau (IBM)
Ed Lazowska** (University of Washington)
Ran Libeskind-Hadas (Harvey Mudd College)
Monica Martinez-Canales (Sandia National Labs)
Margaret Martonosi (Princeton University)
Andrew McCallum (University of Massachusetts)
Stephenie McLean (RENCI)
Ron Metoyer (Oregon State University)
Renée Miller (University of Toronto)
Linda Morales (TAMU-Commerce)
Robin Murphy (Texas A&M University)
Beth Mynatt (Georgia Institute of Technology)
David Novick (University of Texas, El Paso)
Joann Ordille (Avaya Labs)
Sethuraman Panchanathan (Arizona State University)
Manuel Perez-Quiñones (Virginia Tech)
Lori Pollock (University of Delaware)
Padma Raghavan (Pennsylvania State University)
Ann Redelfs (Independent Consultant)
Debra Richardson (UC Irvine)
David E. Shaw (D.E. Shaw Research)
Mary Lou Soffa** (University of Virginia)
Gurindar Sohi (University of Wisconsin, Madison)
Eugene Spafford** (Purdue University)
Lynn Stein (Olin College)
Karen Sutherland (Augsburg College)
Andy van Dam** (Brown University)
Rose van Thater-Braan (Silver Buffalo Consulting and Native American Academy)
David Waltz** (Columbia University)
Elaine Weyuker** (AT&T)
Telle Whitney (Anita Borg Institute)
Pamela Williams (Sandia National Laboratories)
Margaret Wright (New York University)
Stuart Zweben** (Ohio State University)

***Former CRA board members*

Richard Tapia Celebration of Diversity in Computing Conference 2009

Key Speakers, Record Attendance

The Richard Tapia Celebration of Diversity in Computing Conference, the premier event for the Coalition to Diversify Computing (CDC), was held April 1-4, 2009 in Portland, Oregon (http://www.tapiaconference.org/2009).

It was the most successful conference in the history of the event, according to Pam Williams of LMI, 2008-09 chair of the CDC. The CDC, a joint organization of the Association for Computing Machinery, Computing Research Association, and IEEE Computer Society, organizes the conference.

The conference is designed to honor the accomplishments of underrepresented minorities in computing. Plenary speakers, panels, workshops, poster sessions, Birds-of-a-Feather sessions, and a Robotics Competition all provide opportunities for participants to learn about the accomplishments of their colleagues nationwide. Ron Metoyer, Oregon State University, and Manuel Perez, Virginia Tech, Co-chairs of the Technical Program, stated, "All of the aspects of the technical program reflected the conference theme of 'Intellect, Initiative, Insight, and Innovation. The program reflected the diversity of topics we wanted to see for this conference in 2009 and beyond."

Hector Garcia-Molina, Stanford University, gave the Ken Kennedy Distinguished Lecture, a tribute to Rice University Professor Ken Kennedy, one of the world's foremost experts on high-performance computing. Ann Gates, University of Texas at El Paso, was awarded the Tapia Achievement Award for Scientific Scholarship, Civic Science, and Diversifying Computing, which recognizes an individual with outstanding achievements in scientific scholarship, a strong civic presence within the scientific community, and a dedication to the attainment of true ethnic diversity in computing and related disciplines.

Harvey Mudd College's "import antigravity" all-sophomore team won the Robotics Competition for the second year in a row. First, second, and third place winners in the undergraduate and graduate student Posters Competition have been entered into the ACM Grand Finals for the Student Research Competition.

The 2009 conference set a new record for attendance: nearly 400 attendees from academia, industry, and government participated in this year's event, including 249 students and 73 faculty members representing 101 universities and colleges. Additionally, over 20 companies and research institutions participated in the conference. Industry, academic, and government supporters provided scholarships to 141 students.

About the Tapia Conference

The next Tapia Celebration will be held in 2011, which will be the 10th anniversary of the conference. Sign up for notices about the conference at info@tapiaconference.org. The conference honors the significant contributions of Richard A. Tapia, University Professor and Maxfield-Oshman Professor in Engineering in the Department of Computational and Applied Mathematics and Director of the Center for Excellence and Equity in Education at Rice University in Houston, Texas.

2008-09 Computing Research Association Members

Academic Members

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Auburn University - CSSE
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Brown University - CS
Bucknell University - CS
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Case Western Reserve University - EECS
City University of New York, Graduate Center - CS
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
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Cornell University - CS
Dalhousie University - CS
Dartmouth College - CS
DePaul University - CDM
Drexel University - CS
Drexel University - IST
Duke University - CS
Emory University - MCS
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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
Hofstra University - CS
Illinois Institute of Technology - CS
Indiana University - CS
Indiana University - I
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
McGill University - CS
Memorial University of Newfoundland - CS
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 Mexico Tech - 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 - MCS
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 Illinois University, Carbondale - CS
Southern Methodist University - CSE
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
Temple University - CIS
Texas A&M University - CS
Texas A&M University, Corpus Christi - CS
Texas State University - CS
Toyota Technological Institute at Chicago - CS
Tufts University - CS
Union College - CS
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University at Buffalo, SUNY - CSE
University of Alabama, Birmingham - CIS
University of Alabama, Tuscaloosa - CS
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University of Arkansas at Little Rock - IS&SE
University of Bridgeport - CSE*
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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 Arkansas - CS
University of Central Florida - EECS
University of Chicago - CS
University of Cincinnati - CS
University of Colorado, Boulder - CS
University of Connecticut - CSE*
University of Delaware - CIS
University of Denver - ECS
University of Georgia - CS
University of Hawaii - ICS
University of Houston - 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 Montana - 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 Brunswick - CS
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 - IT
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, Austin - ECE
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 - I
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

* Indicates new member in 2008-2009

Lab and Center Members

Microsoft Corporation *(Sustaining Member)*
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AT&T Labs*
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National Center for Atmospheric Research
NEC Laboratories America, Inc.
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Sun Microsystems, Inc.
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Affiliated Professional Society Members

Association for the Advancement of Artificial Intelligence

Association for Computing Machinery

CACS/AIC

IEEE Computer Society

Society for Industrial and Applied Mathematics

USENIX Association

**Indicates new member in 2008-2009*

Professional Opportunities

CRN Advertising Policy

See http://www.cra.org/main/cra.jobshow.html

D. E. Shaw Research

Early Career Scientists and Engineers: Computational Biochemistry

Extraordinarily gifted early career scientists and engineers sought to join a rapidly growing New York-based research group pursuing an ambitious, long-term project aimed at achieving major scientific advances in the field of biochemistry and fundamentally transforming the process of drug discovery. Successful candidates will work closely with a number of the world's leading biologists, chemists, and computer scientists, and will have the opportunity not only to participate in an exciting entrepreneurial venture with considerable economic potential, but to make groundbreaking contributions within the fields of biology, chemistry, and medicine.

D. E. Shaw Research is seeking scientists and engineers with zero to five years of experience who have degrees in chemistry, biology, physics, computer science, engineering, and mathematics from top-tier universities. Serious consideration will be given to candidates with extraordinary records of achievement in the natural sciences and/or scientific programming, exceptional quantitative abilities, and superb communication skills.

The group's current research activities are aimed at the discovery and development of innovative scientific techniques to direct unprecedented computational power toward the solution of key problems in the fields of biomolecular simulation and design.

This research effort is being financed by the D. E. Shaw group, a global investment and technology development firm with more than US $30 billion in aggregate investment capital. The project was initiated by the firm's founder, Dr. David E. Shaw, and operates under his direct scientific leadership.

We are prepared to offer above-market compensation to candidates of truly exceptional ability.

Interested applicants should send a resume to:

cra-sa@career.DEShawResearch.com
EOE

D. E. Shaw Research

Research on Algorithms and Architectures for Computational Biochemistry

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

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

Serious candidates will have an exceptionally distinguished history of academic and/or industrial accomplishment in computer science, electrical engineering, applied mathematics, or a related area. Particularly relevant areas of expertise might include parallel computation, high-speed interconnection networks, scientific computing, numerical analysis, optimization, the analysis of algorithms, operating systems, digital systems simulation, reconfigurable computing, and ASIC design, but specific knowledge of any of these areas is less critical than exceptional intellectual ability and a demonstrated track record of achievement.

Candidates will primarily be considered for opportunities in New York City and Silicon Valley. We are prepared to reward exceptionally well-qualified individuals with above-market compensation.

Please send your curriculum vitae (including list of publications, thesis topic, and advisor, if applicable) to:

cra-CS@career.DEShawResearch.com
EOE

Dominican University

Computer Science Department

Assistant Professor Position

Dominican University, a comprehensive Catholic university located ten miles west of downtown Chicago, invites applications for an anticipated full-time tenure-track faculty position in Computer Science beginning in August 2010 at the rank of Assistant Professor. Preferred candidates will have a doctoral degree in Computer Science or a related field. Candidates must have excellent communication skills and the ability and willingness to teach undergraduate courses at all levels, including the university's Core Curriculum. Candidates in all areas of specialization will be considered. Candidates with expertise in computer graphics/gaming, multimedia development or bio-informatics are encouraged to apply. Previous teaching/industry experience is a plus, but is not essential. Teaching is the primary responsibility, but other responsibilities include scholarly activity and participating in university life and governance. Applications will be reviewed beginning in October 2009 until the position is filled. Salary and benefits are competitive.

Send a CV, letter of interest, statement of teaching philosophy, three letters of recommendation, and prior teaching evaluations if available. Applications can be sent via email to hr@dom.edu or through the postal service to the following address:

Dominican University
Attn: HR
7900 W Division Street
River Forest, IL 60305

Dominican University is an equal employment opportunity employer seeking applicants from underrepresented groups.

Masdar Institute of Science and Technology, Abu Dhabi, UAE

Information Technology Program

Full, Associate, and Assistant Professor

The Masdar Institute of Science and Technology (Masdar Institute), 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 the Massachusetts Institute of Technology (MIT). Starting Fall 2009, the Institute will offer graduate degree programs in science and engineering disciplines with a focus on advanced energy and sustainable technologies (for more information, visit: http://www.masdar.ac.ae and http://web.mit.edu/mit-tdp/www/

Job description: Teach graduate courses, supervise master and doctoral students, develop a research program, and participate in the Institute's service and outreach activities.

Qualifications: The Information Technology Program at the Masdar Institute has full-time, open-rank (i.e., Full, Associate, or Assistant Professor) faculty positions in the area of Applied Computer Science, including Software Engineering and Database Systems. Successful candidates will have demonstrated research and teaching capability in one or more of the following areas: software architecture, systems development, requirements engineering, networking, distributed computing, database design and/or theory, data mining, and real-time information technologies (such as advanced sensor networks). Candidates must also have an interest in applying their research to areas related to advanced energy and sustainability. Specific examples of relevant research applications include software support for green buildings, standards for intelligent physical infrastructure, intelligent transportation systems, smart power grids, and large-scale scientific databases. The applicants must be fluent in English. A Ph.D. in computer science or a related field is required, and post-doctoral or industrial research experience is a plus.

Application process: Initial screening of applicants will begin immediately and the position will remain open until filled. Application materials should include applicant name and contact information, a curriculum vitae, an application letter describing the applicant's current position and how his/her experience matches the position requirements, and e-mail contact information for three references. Materials must be submitted electronically to:

Dr. John Perkins, Provost and Co-Chair
Faculty Search Committee for Masdar Institute of Science and Technology
Abu Dhabi, United Arab Emirates
(Email: jperkins@mist.ac.ae)

Electronic copies of all application materials should also be submitted to:

Professor Fred Moavenzadeh, Co-Chair
Faculty Search Committee for Masdar Institute, Technology and Development Program
Massachusetts Institute of Technology
(E-mail: tdpmail@mit.edu)

NEC Laboratories America, Inc.

Data Management Group

Researchers

NEC Laboratories America, Inc., (www.nec-labs.com) is a vibrant industrial research center renowned for technical excellence and high-impact innovations that conducts research and development in support of global businesses by building upon NEC's 100-year history of innovation. Our research programs cover a wide range of technology areas and maintain a balanced mix of fundamental and applied research as they focus on innovations which are ripe for technical breakthrough. Our progressive environment provides exposure to industry-leading technologies and nurtures close collaborations with leading research universities and institutions. Our collaborative atmosphere, commitment to developing talent, and extremely competitive benefits ensure that we attract the sharpest minds in their respective fields. NEC Labs is headquartered in Princeton, NJ and has a second location in Cupertino, CA.

We are seeking researchers to join our Data Management group in Cupertino, CA. The current research focus of the group is to create cutting edge technologies for Data Management in the Cloud. Candidates must have a Ph.D. in Computer Science (or related fields) with solid data management background and strong publication record in related areas, must be proactive with a "can-do" attitude, and able to conduct research independently. Experience in Cloud Computing, SaaS, Service Oriented Computing areas is a major plus.

The requirements for one position are:

- 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

For consideration, please forward resume and research statement to recruit@nec-labs.com and reference "DM-R1" in the subject line.

For another position the researcher will create new models to capture, analyze, and predict the state of the data management systems deployed in cloud environment and combine the insights provided by those models with the database internals to deliver leading-edge data management technologies for unparalleled efficiency gains. The requirements are:

- Demonstrated knowledge of statistical and probabilistic models in large scale data and system analysis
- Strong experience in data mining and data analytics
- Good hands-on system building and prototyping skills
- Experience in data warehousing

For consideration, please forward resume and research statement to recruit@nec-labs.com and reference "DM-R2" in the subject line.

EOE/AA/MFDV

Nova Southeastern University (NSU)

Graduate School of Computer and Information Sciences

Dean Position

Nova Southeastern University (NSU) invites applications for Dean of its Graduate School of Computer and Information Sciences. The School offers a unique mix of innovative M.S. and Ph.D. programs in computer science, information systems, information security, and educational technology.

As the chief academic and administrative officer of the Graduate School of Computer and Information Sciences (GSCIS), the Dean will be responsible for leadership of the school's academic and administrative affairs. The Dean will provide innovative vision and leadership in order to maintain and advance the stature of the GSCIS. The Dean will foster and enhance the multidisciplinary structure of the GSCIS that includes Computer Science, Information Systems, and Information Technology in Education disciplines. The Dean will ensure that quality educational services are provided to students.

Professional Opportunities

Qualifications include a doctoral degree in computer science, information systems, or related field. Candidates should have the ability to work with faculty in their continued pursuit of academic excellence and a shared vision towards preeminence in research and scholarship. Candidates should have experience related to graduate education, a demonstrated record of developing and facilitating research, and senior administrative experience. Candidates should have a sophisticated knowledge of the use of technology in the delivery of education and distance learning and/or hybrid curricula.

Located on a beautiful 330-acre campus in Fort Lauderdale, Florida, NSU has more than 28,000 students and is the sixth largest independent, not for-profit university in the United States. NSU awards associate's, bachelor's, master's, educational specialist, doctoral, and first-professional degrees in more than 100 disciplines. It has a college of arts and sciences and schools of medicine, dentistry, pharmacy, allied health and nursing, optometry, law, computer and information sciences, psychology, education, business, oceanography, and humanities and social sciences.

Applications should be submitted online at www.nsujobs.com for position #997648

Visit our website at: www.nova.edu http://scis.nova.edu

Princeton University

Electrical Engineering

Postdoctoral Research Associate

There are two unique features of this opening: it is part of an inter-disciplinary team consisting of researchers from engineering, sociology, and public policy at Princeton and it will access a social network testbed currently operating at Princeton and used by Princeton students. Candidates must have received, or expect to soon receive, a Ph.D. degree in CS or EE, with a specialization in topics related to online social networking, such as structure, search, and spread of information in social networks, recommender and reputation systems, large-scale user behavior data mining, and social impact of Internet technologies. Candidates with background in systems and data analysis are particularly encouraged to apply.

Princeton University is an equal opportunity employer and complies with applicable EEO and affirmative action regulations.

You may apply online at http://jobs.princeton.edu, job requisition # 0900261, or for general application information and how to self-identify, see: http://www.princeton.edu/dof/ApplicantsInfo.htm

We strongly recommend, however, that all interested candidates use the online application process.

University of Delaware

Department of Computer and Information Sciences

Postdoctoral Researcher

The University of Delaware invites applications for a full-time Postdoctoral Researcher to work on collaborative research with the U.S. Army Research Laboratory in Aberdeen, MD.

A Ph.D. in Computer Science, Computer Engineering, or Computational Science is required. Candidates should possess a demonstrated potential and strong commitment to quality research. Candidates also should have primary interest and expertise in parallel and distributed systems, GPGPU and scientific applications (with emphasis on Monte Carlo and Molecular Dynamics simulations). The initial appointment will be for one year, renewable annually for up to three years by mutual agreement. For more information, please visit the job website:

http://gcl.cis.udel.edu/openpositions.php

To apply send a cover letter, curriculum vitae and contact information for at least three (3) references to Dr. Michela Taufer at: taufer@acm.org

The University of Delaware is an Equal Opportunity Employer which encourages applications from Minority Group Members and Women.

University of Miami

Center for Computational Science

Post Doctoral Associate

The University of Miami is committed to educating and nurturing students, creating knowledge, and providing service to our community and beyond. We are leaders in the area of education, scholarship, intercollegiate athletics and service. Come join our team!

The University of Miami Center for Computational Science seeks applications for a two-year postdoctoral fellow to join Data Mining Group commencing September 1, 2009. The main responsibility of the fellow is to conduct interdisciplinary data mining research with researchers at the university. The candidate will work closely with the Data Mining and Bioinformatics Groups within the CCS as well as participate in the general educational and research mission of the Center.

Candidates for the position must hold a Ph.D. in Computer Science or a closely related discipline and at least two years experience. A background or interest in computational biology is preferred. Qualified applicants can apply at www.miami.edu/careers - Keyword #039539.

The University of Miami offers competitive salaries and a comprehensive benefits package including medical and dental benefits, tuition remission, vacation, paid holidays and much more.

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

University of Michigan-Shanghai Jiao Tong University

Joint Institute (UM-SJTU JI)

Faculty Positions

The UM-SJTU JI invites applications for tenure-track positions at assistant, associate or full professor levels in electrical/computer engineering fields. Successful candidates will be expected to establish vigorous research programs, mentor PhD students, participate in the international research community, and teach undergraduate and graduate courses. Salary will be highly competitive and commensurate with qualifications and experience.

For more information, please visit: http://www.umji.sjtu.edu.cn/News_View/?NewsID=2237

University of Missouri (MU)

Department of Computer Science

Non-Tenure Track Position

The University of Missouri (MU) invites applicants and nominations for a non-tenure track position - Associate Director of the Informatics Research Core Facility (IRCF). The University is seeking candidates with at least 3 years of experience in providing informatics services to life science faculty in major research institutions. Salary is commensurate with credentials and experience.

The Associate Director will have adjunct faculty appointments at the Informatics Institute (http://muii.missouri.edu) and the Computer Science Department (http://www.cs.missouri.edu). With the support and guidance of a Supervisory Committee, this individual will oversee the design, implementation and ongoing administration of the IRCF and assure researchers are well served. This individual will be expected to build effective relationships with researchers and promote collaborations and communications to help assure funding for long-term sustainability through external funding proposals, service charges, etc. Ideally the Associate Director will be an experienced faculty-level investigator with extensive informatics and managerial training.

Candidates must possess a Ph.D. in Informatics or other related area of study. The applicant will need to possess an adequate statistical background and knowledge and ideally will have relevant experience in assisting faculty-level investigators with bioinformatics and statistical support.

The University of Missouri is a Doctoral/Research Extensive University and is a member of the Association of American Universities (AAU). This position can be filled as early as September 2009, but the search will continue until this position is filled. Applicants should submit (electronically if possible) a curriculum vitae, a statement to address informatics service plan, at least three reference letters/references and complete contact information to:

Informatics Research Core Facilities
Search Committee
c/o Ms. Leesa Ianke
One Hospital Drive
M-745 Medical Sciences Building; DC044.00
Office of Research Core Facilities
University of Missouri
Columbia, MO 65212
(573) 884-3631
IankeL@missouri.edu

MU is an Equal Opportunity/Affirmative Action and ADA employer, and specifically invites, and encourages applications from qualified women and minorities.

University of Oregon

Department of Computer and Information Science

Faculty Position

The Computer and Information Science (CIS) Department at the University of Oregon seeks applicants for one or more full-time, tenure-track faculty positions beginning fall, 2010, at the rank of Assistant Professor. The University of Oregon is an AAU research university located in Eugene, two hours south of Portland, and within one hour's drive of both the Pacific Ocean and the snow-capped Cascade Mountains.

The CIS Department is part of the College of Arts and Sciences and is housed within the Lorry Lokey Science Complex. The department offers B.S., M.S. and Ph.D. degrees. More information about the department, its programs and faculty can be found at http://www.cs.uoregon.edu, or by contacting the search committee at faculty.search@cs.uoregon.edu.

We offer a stimulating, friendly environment for collaborative research both within the department and with other departments on campus. Faculty in the department are affiliated with the Cognitive and Decision Sciences Institute, the Computational Science Institute, and the Neuro-Informatics Center.

Computer science is a rapidly evolving academic discipline. The department accordingly seeks to hire faculty in established areas as well as emerging directions in computer science. Applicants interested in interdisciplinary research are encouraged to apply. Applicants must have a Ph.D. in computer science or closely related field, a demonstrated record of excellence in research, and a strong commitment to teaching. A successful candidate will be expected to conduct a vigorous research program and to teach at both the undergraduate and graduate levels.

Applications will be accepted electronically through the department's web site (only). Application information can be found at: http://www.cs.uoregon.edu/Employment/

Review of applications will begin January 4, 2010 and continue until the position is filled. Please address any questions to faculty.search@cs.uoregon.edu.

The University of Oregon is an equal opportunity/affirmative action institution committed to cultural diversity and is compliant with the Americans with Disabilities Act. We are committed to creating a more inclusive and diverse institution and seek candidates with demonstrated potential to contribute positively to its diverse community.

University of Pennsylvania

Department of Computer and Information Science

Faculty Positions

The University of Pennsylvania invites applicants for tenure-track appointments in computer science to start July 1, 2010. Tenured appointments will also be considered.

The Department of Computer and Information Science seeks 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. While exceptional candidates in all areas of core computer science may apply, of particular interest this year are candidates in who are working on the foundations of Market and Social Systems Engineering - the formalization, analysis, optimization, and realization of systems that increasingly integrate engineering, computational, and economic systems and methods. Candidates should have a vision and interest in defining the research and educational frontiers of this rapidly growing field.

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.

For more detailed information regarding this position and application link please visit:http://www.cis.upenn.edu/departmental/facultyRecruiting.shtml

University of Pennsylvania

Department of Computer and Information Science

Lecturer Position

The University of Pennsylvania invites applicants for the position of Lecturer in Computer Science to start July 1, 2010. 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. Lecturer duties include undergraduate and graduate level courses within the Master of Computer and Information Technology program, (www.cis.upenn.edu/grad/mcit/). Of particular interest are applicants with expertise and/or interest in teaching computer hardware and architecture. The position is for one year and is renewable annually up to three years.

Successful applicants will find Penn to be a stimulating environment conducive to professional growth in both teaching and research.

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

The Penn CIS Faculty is sensitive to "two–body problems" and would be

Professional Opportunities Continued on Page 12

Professional Opportunities

pleased to assist with opportunities in the Philadelphia region.

For more detailed information regarding this position and application link please visit: http://www.cis.upenn.edu/departmental/facultyRecruiting.shtml

Wake Forest University

Computer Science and Physics

Faculty Position in Computational Biophysics

Wake Forest University invites applications for a tenure track faculty position at the level of Assistant Professor with a joint appointment in the Departments of Computer Science and Physics to begin in the fall semester of 2010. Applicants should have completed a PhD in an appropriate field by the time of appointment. Wake Forest University is a highly ranked, private university with about 4500 undergraduates, 750 graduate students, and 1700 students in the professional schools of medicine, law, divinity and business. The Physics Department has a major concentration in biophysics with approximately one third of the departmental faculty working in that field. Several computer science faculty are actively engaged in scientific computing, computational systems biology, biological modeling and bioinformatics.

Interdisciplinary research is highly valued and encouraged by the departments and University. The successful candidate will have a strong research record in computational biophysics. The candidate should also have demonstrated ability to teach courses relating to topics in physics, biophysics, or computer science. The successful candidate will be expected to teach in both departments at the undergraduate and graduate levels. Excellence in research, teaching, and obtaining external funding will be expected.

Applicants should send a copy of their CV, statements regarding their research interests and teaching philosophy, and the names of three references to the:

Computational Biophysics Search Committee
Box 7507
Wake Forest University
Winston-Salem, NC 27109-7507

Application materials can be sent electronically in the form of a single PDF document to physcscrecruit@lists.wfu.edu. Review of applications will begin November 1, 2009 and will continue through January 15, 2010.

More information is available at http://www.wfu.edu/csphy/recruiting/.

Wake Forest University is an equal opportunity/affirmative action employer.

Washington State University Vancouver

Computer Science

Faculty Position

Washington State University Vancouver invites applications for a tenure-track position at the assistant professor level beginning 8/16/2010 in the School of Engineering and Computer Science. Candidates are sought with expertise in computer security, large scale data management, data mining or cyber-physical systems.

Required qualifications: Ph.D. in Computer Science or Computer Engineering at the time of employment and demonstrated ability to (1) develop a funded research program, (2) establish strong industrial collaborations, and (3) teach undergraduate and graduate courses and laboratories. Preferred qualifications: relevant industry experience, experience with ABET accreditation, and commitment to working with diverse student and community populations. WSU Vancouver is committed to building a culturally diverse educational environment.

WSU Vancouver serves about 2600 graduate and undergraduate students and is fifteen miles north of Portland, Oregon. The School of Engineering and Computer Science (ENCS) offers ABET-accredited BS and MS degrees in mechanical engineering and computer science. The State recently authorized a new BS-EE program along with funding for a second new building for the ENCS. The rapidly growing ENCS equally values both research and teaching. WSU is Washington's land grant university with faculty and programs on four campuses. For more information: http://www.vancouver.wsu.edu/encs.

Applications must include: (1) cover letter with a clear description of experience relevant to the position; (2) vita including a list of references; and (3) maximum three-page total summary statement of research and teaching experience. This statement must describe how the candidate's research activity will expand or complement the current research in ENCS. It must also list the existing ENCS courses the candidate can teach and proposed new courses the candidate can develop.

Application deadline is December 4, 2009. All materials should be mailed to:
CS Search Committee
School of ENCS - VELS 130
Washington State University
14204 NE Salmon Creek Avenue
Vancouver, WA 98686-9600

WSU employs only US citizens and lawfully authorized non-citizens. WSU is an EO/AA educator and employer.

Williams College

Computer Science Department

Half-time Visiting Faculty Position

The Department of Computer Science at Williams College invites applications for an anticipated one-semester, half-time visiting faculty position in the spring of 2010. We are particularly interested in candidates who can teach an undergraduate course in artificial intelligence or a related field.

Candidates should either hold or be pursuing a Ph.D. in computer science or a closely related discipline. This position might be particularly attractive to candidates who are pursuing an advanced degree and seek the opportunity to incorporate additional classroom experience in their professional preparation. Applications in the form of a vita, a teaching statement, and three letters of reference, at least one of which speaks to the candidate's promise as a teacher, may be sent to:

Professor Thomas Murtagh, Chair
Department of Computer Science
47 Lab Campus Drive
Williams College
Williamstown, MA 01267

Electronic mail may be sent to cssearch@cs.williams.edu. Applications should be submitted by October 15, 2009 and will be considered until the position is filled.

The Department of Computer Science consists of eight faculty members supporting a thriving undergraduate computer science major in a congenial working environment with small classes, excellent students, and state-of-the-art facilities. Williams College is a highly selective, coeducational, liberal arts college of 2100 students located in the scenic Berkshires of Western Massachusetts.

Beyond meeting fully its legal obligations for non-discrimination, Williams College is committed to building a diverse and inclusive community where members from all backgrounds can live, learn, and thrive. ■

TU WIEN

Announcement of an open position at the
Faculty of Informatics,
Vienna University of Technology, Austria

Full Professor (tenured)

in

Algorithms and Data Structures

The successful candidate is expected to lead his/her own group and to conduct research and teaching in the area of Algorithms and Data Structure. Ideally, candidates are sought, who are able to combine theoretical research with novel applications.

Applicants are expected to have an outstanding academic record and experience with research projects as well as in university teaching.

We offer excellent working conditions in an attractive research environment in a city with an exceptional quality of living.

A more detailed announcement and information on how to apply can be found at **http://www.informatik.tuwien.ac.at/ADS.pdf**

Application deadline: **November 20, 2009**

CRA-W's 2009 Career Mentoring Workshop

Pictured are workshop attendees (l to r) CRA-W co-chair, Carla Brodley, Judy Goldsmith, and Tessa Lau. Organized by CRA-W members Susanne Hambrusch and Tessa Lau, the Career Mentoring Workshop was co-located with the IJCAI 2009 conference in Pasadena, CA from July 11-12. The eleven conference speakers represented academia, industry and government labs. For a full agenda that lists the sessions and speakers, see: http://www.cra-w.org/mentorWrkshp/cmwrl-2009/agenda

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Change of Address: Note that a change of address must include the old and new addresses with ZIP+4. Please include a street address or PO Box number.

Postmaster: Send address changes to: CRA, 1100 17th Street, NW, Suite 507, Washington, DC 20036-4632. Postage paid at Washington, DC.

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