

COMPUTING RESEARCH NEWS

A Publication of the Computing Research Association

September 2008 Vol. 20/No. 4

Science Funding Again Headed for Uncertain Wrap-Up

By Peter Harsha

Despite what appear to be generous funding levels for FY 2009 approved by congressional appropriators for federal science agencies, most in the science advocacy community are bracing for another year in which science funding falls victim to bigger political concerns.

Both the House and Senate appropriations committees have approved measures that would put the National Science Foundation (NSF), Department of Energy's Office of Science (DOE Sci) and the National Institute of Standards and Technology (NIST) back on a funding trajectory that would double their budgets over the next seven years. However, continuing tensions between the White House, the Democratic Congressional leadership, and fiscally conservative factions of both parties threaten to once again derail the annual appropriations process necessary for funding federal programs.

The tensions result from differing priorities among the players for the annual appropriations bills and

the firm opposition by the White House and its allies in Congress to any significant increase in federal discretionary spending beyond those called for in the President's FY 2009 budget request. The President announced early in the FY 2009 budget process that any increase in discretionary spending not requested in his budget will likely earn his veto, and it appears he has the support in Congress to sustain the threat.

As a result, it appears that the congressional leadership will not give the President the opportunity to veto the bills and score the political points that might come from taking a hard line on increased government spending. The Democratic leadership plans to pass what is known as a "Continuing Resolution" before the start of FY 2009 on October 1, 2008, that would likely fund all federal agencies at their FY 2008 spending levels until such time as the Congress passes the FY 2009 appropriations bills. With a continuing resolution in place, Congress could delay consideration of

the FY 2009 appropriations bills until after the November 2008 presidential election—perhaps waiting until a more cooperative Administration (in their view) is in place in the White House in early 2009.

Such a move could prove seriously detrimental to federal science agencies, which have spent FY 2008 trying to manage personnel and programs that were either held flat or cut as a result of the equally dysfunctional FY 2008 appropriations process.¹ A long-term continuing resolution for FY 2009 would likely result in layoffs of researchers and cuts to research programs at the Department of Energy and NIST, and a significant reduction in the number of grants and graduate fellowships planned by the National Science Foundation.

Members of the science advocacy community—including CRA—plan an aggressive effort to mitigate the impact of a long-term continuing resolution on federal science agencies by asking that Congress include an exception for those agencies in the

bill that would fund them not at the FY 2008 level, but at the levels approved for FY 2009 by the House and Senate appropriations committees. Though the full House and Senate have yet to vote on the measures, the appropriations committees in both chambers have "marked up" and passed FY 2009 appropriations bills for Commerce, Science and Justice that include significant increases in funding for NIST and NSF (up 14 percent), and for Energy and Water that include generous increases for DOE Science (16 percent).

This strategy of asking for a "science exemption" in the continuing resolution, while considered a long shot by most in the community, was used somewhat successfully during the FY 2007 appropriations process.² The difficulty with getting a special exemption lies with the congressional leadership's reluctance to open up the continuing resolution to

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**Note to
Department Chairs
Taulbee Survey 2007-08
Coming Soon!**

Best Practices in Promotion and Tenure of Interdisciplinary Faculty

By Martha E. Pollack and Marc Snir

Interdisciplinary research and education is an increasingly important feature of the academic landscape. The fields of computing and information science and engineering are no exception: CISE researchers collaborate with electrical engineers in the design of low-power chips; with linguists in the development of natural-language processing systems; with education experts on the use of digital technologies in formal and informal education; with biologists in the exploration of the genetic code; with economists in the formation of theories of on-line commerce; and with statisticians in the discovery of new ways to extract information from rich sets of data—to name just a few examples. Some of these efforts have even led to the establishment of new disciplines, such as bioinformatics and data mining. While "core" areas of computation, such as operating

systems, programming languages, networking, and others, will continue to produce key advances, there is an emergent agreement among computer and information scientists that close interactions with other disciplines are essential to the health and advancement of our field.

Not surprisingly, then, academic departments in computing and information are increasingly recruiting and hiring people with interdisciplinary skills. While this indicates a healthy responsiveness in the field to the broader research and funding trends, it also poses challenges both for computing and information departments and for their faculty members.

One particular challenge involves the tenure process for interdisciplinary faculty members. At the request of the CRA Board of Directors, we therefore undertook the task of providing a set of

recommendations for 'best practices' in interdisciplinary tenure. We are not aware of definitive research that evaluates practices in managing the careers of interdisciplinary faculty members. Therefore, our recommendations are based on the shared experience of a large number of unit heads (including the authors) and anecdotal information on the practices of units with successful interdisciplinary programs.

The full report is available on the CRA web site: http://www.cra.org/reports/promotion_tenure.html. Here we provide a very brief overview of the key recommendations. We distinguish between faculty who have appointments in more than one department and those who, while pursuing an interdisciplinary program

Best Practices in Promotion
and Tenure
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PAID
WASHINGTON, DC
PERMIT NO. 993

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1100 Seventeenth Street, NW
Suite 507
Washington, DC 20036-4632

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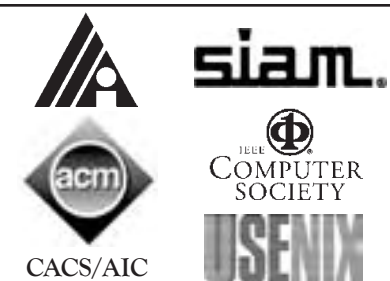
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2009 CRA Outstanding Undergraduate Awards Deadline October 14

The Computing Research Association is pleased to announce the 15th annual Outstanding Undergraduate Awards 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 2008-09 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 students, one female and one male. A small number of other outstanding candidates will be recognized as Runners-Up and Finalists. All nominees whose work is considered to be exemplary are recognized with Honorable Mentions.

The two first-prize winners will receive financial assistance to attend a major computing research conference, and CRA will sponsor a departmental reception for them at their home institutions. Their awards will be presented at one of these venues.

CRA gratefully acknowledges the support of Microsoft Research and Mitsubishi Electric Research Labs (MERL) who sponsor the Outstanding Undergraduate Awards Program in alternate years. Microsoft Research is the 2009 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 14, 2008**. ■

2008 Awards Presented



Photo Credit: Peche Turner, Stanford University

Chuan Sheng Foo, male winner, receives his award from CS Department Chair, Bill Dally, at a departmental reception at Stanford University.



Photo Credit: Frank Wojciechowski

CRA Board member, Jennifer Rexford, presents **Rachel Sealfon** with her Outstanding Undergraduate Award (female) at a reception at Princeton University.



Photo Credit: Jerri Chittum, CalTech

Professor Chris Umans (right) congratulates **Kevin Dick** on his Outstanding Undergraduate Award (male winner). The award was presented at a reception held at CalTech.



Photo Credit: Patsy Sampson, MIT

Raluca Ada Popa, MIT, Runner-Up for the female Outstanding Undergraduate Award 2008, received her award at the EECS department's annual awards event in May. Associate Department Head, Srin Devadas, made the presentation.

Musings from the Chair Research, Teaching and Service: Dynamic Balance

By Dan Reed, CRA Board Chair



You are a newly minted Ph.D. recipient who landed a faculty position at a research university. The fall semester is just beginning, and you are simultaneously excited and a bit apprehensive. University life is unchanged and also surprisingly new—writing research proposals, teaching classes and serving on faculty committees. Your friends and new colleagues are giving you sometimes conflicting advice on time management and priorities. What really matters? How do you choose? How do you find your own path?

Research, teaching and service: they are the standard academic mantra, which one suspects Socrates himself whispered in Plato's ear. The disquieting truth is that we honor them to varying degrees, but often in that rank order. All too often, those of us with graying hair whisper to our junior colleagues, "Focus on your research!" Or, we opine, "You need to be a decent (but not great) teacher to get tenure." Then there's service, where we inevitably say, "Make sure you serve on program committees for

good conferences, but leave time-consuming service for later."

These are the oft-unspoken rules for success and tenure at major research universities. They define our academic culture, creating expectations and defining behavioral norms that are passed across the academic years. I generalize and exaggerate, of course, and the relative emphases on research, teaching and service vary greatly across institutions. However, I find even the generalizations worrisome because the academic child becomes the adult, remembering the lessons of youth. I believe we need better balance, recognizing the criticality of the triumvirate to computing's future.

Do not misunderstand my comments on balance; our emphasis on research really matters. As I testified to the U.S. House Science and Technology Committee in July, economic growth and innovation are fueled worldwide by information technology research, conducted by talented and engaged faculty at research universities. In my testimony, I urged Congress to fund the America COMPETES Act fully and to encourage greater risk-taking in long-term, innovative research in our universities and laboratories. The Computing Community Consortium (CCC)

is also working to foster long-term research agendas; I encourage you to participate.

Nevertheless, our passion and commitment to teaching and education are equally important. We have an image problem in information technology, and I believe we need to rethink our curricula and approaches to computing education—as well as the rewards and recognition we extend to committed educators—if we are to broaden the base of participation in computing and attract the diverse talent needed for the future. The CRA Education Committee (CRA-E), chaired by Andy van Dam, is hard at work on a set of best practices and suggestions for computing education. I know Andy would be delighted to hear your ideas and suggestions.

Remember, though, that Chaucer long ago captured the shared passions for research and teaching that define the best aspects of academic scholarship—"And gladly would he learn and gladly teach." We need to translate those passions into 21st century reality. Research and teaching are but two manifestations of the same quest. As every young professor has learned, sometimes to his or her chagrin, there is no better way to truly understand something than to teach it.

A final, worrisome cultural manifestation is our occasional reluctance to serve the discipline when the need and opportunity arise. Each generation owes a debt to the preceding one, a debt best repaid to the generation following. Whether it be community advocacy, service as a funding agency program officer, a term as department chair, dean, provost or chancellor, or a host of other important roles, service advances our field and ensures a vibrant, rich and attractive environment for a new generation of students and scholars. Each of us owes a debt to our mentors, our colleagues and our friends. We need to better honor those who serve our community.

Research, teaching, service; these three points define a plane of excellence. We need not sacrifice one for another. Teach, explore and serve—in balance. We will all be better for it.

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

Best Practices in Promotion and Tenure from Page 1

of research, have an appointment within a single unit.

For Interdisciplinary Faculty Members with Multiple Appointments:

- Hold meetings, at least annually, for the chairs of the appointing departments to coordinate teaching and service loads, and to review the requirements for, and progress towards, tenure.
- Identify a "lead" department to manage promotion and tenure and, if possible, make a 75%-25% split instead of 50%-50%. Alternatively, consider having a tenure-track appointment in one department, and a renewable, non-tenure-track position (such as Research Faculty) in the other(s).
- Try to have a single promotion and tenure (or evaluation) committee that includes faculty from all the departments involved.
- If a single committee is not feasible, specify "retreat rights" in advance: what happens if one department awards tenure and the other doesn't? Retreat rights should also be specified when one of the appointments is not tenure-track: what happens if the non-tenure-track position is terminated?

For All Interdisciplinary Faculty Members (with Multiple or Joint Appointments):

- Mentor, mentor, mentor! If possible, select someone who already has interdisciplinary experience to serve as a mentor.
- Provide additional guidance in finding appropriate funding sources.
- Provide support and compensation for the added demands of being "first of a kind"—and, if possible, eliminate some of those demands by making cluster hires of multiple faculty members in an interdisciplinary area. This is especially effective if both junior and senior faculty members are part of the cluster.
- Provide extremely detailed feedback at annual and third-year reviews. If possible, include people from different disciplines and/or people with interdisciplinary experience in those reviews.
- Make sure that the promotion and tenure (or evaluation) committee includes people who can assess the faculty member's contributions to different disciplines and, if possible, include people who themselves have interdisciplinary experience. If the faculty member holds an appointment in a research center or institute, be

sure to include members of that center in the reviews.

- Educate yourself and the members of the P&T (or evaluation) committee on the standards of scholarship within the relevant disciplines.
- When you forward the tenure dossier to the upper promotion and tenure (or evaluation) committees, be sure to convey the most important implicit information needed to evaluate the tenure case.
- In requesting letters of recommendation, include wording that specifically asks the letter-writer to evaluate the candidate on the basis of the letter-writer's own area of expertise, while recognizing that the candidate has conducted interdisciplinary research.
- Anticipate that the tenure case will take longer to prepare and to evaluate than purely disciplinary cases, and plan accordingly.

The report also provides the following advice to young faculty candidates who seek to pursue interdisciplinary research. They should keep in mind that different departments have different cultures that may encourage or hinder interdisciplinary research. When interviewing in a department, one should seek information about the

formal and informal attitudes toward interdisciplinary research: Does the department encourage joint appointments? Does it use any of the methods listed above to encourage interdisciplinary research? What fraction of the faculty engages in interdisciplinary research?

Lastly, while tenure is a very important goal for young faculty, it should not be the one and only goal. The probationary period is the beginning of a career that will span several decades. A faculty member should spend the probation time best preparing for this long career. While achieving tenure in the current department will often be an essential step toward achieving career goals, it may sometimes be preferable to focus on a research direction that is not appreciated by the department, and seek a more appreciative environment for such research, if need be.

Martha Pollack is Dean and Professor of the School of Information, and Professor of Computer Science and Engineering, at the University of Michigan. **Marc Snir** is Professor of Computer Science and Director of the Illinois Informatics Institute at the University of Illinois at Urbana-Champaign. Both are current CRA Board Members.

CS Majors Ten Years After Graduation

By Jay Vegso

There are few good sources of information about what happens to undergraduates after they receive their degrees. One is the National Center for Education Statistics' Baccalaureate and Beyond Longitudinal Study (B&B).

The most recent B&B report provides snapshots of work and life experiences in 1994, 1997 and 2003 for those who received undergraduate degrees in 1992-93. It divides majors into those that are 'academic' or 'career-oriented', with computer science (CS) included in the latter (along with business, education, health, and engineering). Sixty-five percent of the 1992-93 graduates had career-oriented majors. CS majors represented a little over 2% of the bachelor's degree recipients tracked by the survey. B&B also reports results by 'STEM' fields, which include engineering, CS, biological sciences, mathematics, and physical sciences.

Here are a few interesting findings about CS majors in the report:

They tended to be older than their fellow undergraduates when they received their degrees.

About 22% of academic majors were aged 25 and older when they graduated, compared to 31% of career-oriented majors. Of all 11 majors or groups of majors reported in the survey, CS had the second highest share of students aged 25 and older (36%).

Few of them studied beyond the baccalaureate level.

When you combine results for each of the three survey years (1994, 1997 and 2003), CS majors tied with business and management majors in having the lowest share of those who had gone on to enroll in additional degree programs—17%, compared to 25% of career-oriented majors and 39% of STEM majors.

They enjoyed high salaries.

In 2003, those who had received their undergraduate degree in CS earned \$72,600. This trailed only engineers, who earned \$74,600. CS also compared well to majors grouped into the STEM (\$68,300) and non-STEM fields (\$58,900).

As a result, it is not surprising that 77% of CS majors reported that they were satisfied with their salaries in 2003—a higher share than any other major (though closely followed by engineering).

They tended to stay in their jobs.

Although IT workers are portrayed as moving between jobs frequently, CS majors in the B&B study reported being with their current employer the longest out of all of the groups tracked. In 2003, CS majors had been with their current employer an average of 6.2 years, compared to 4.3 years for academic majors, 5.6 for career-oriented majors, 5.1 for STEM, and 5.2 for non-STEM majors. In light of this, it is odd that CS majors

also reported the lowest satisfaction with their job security (followed by engineers).

Their skills were in demand among a variety of work sectors.

To quote the report: "Although 48 percent of computer science majors were employed in computer science occupations in 2003, graduates with this major were spread across many industries, reflecting the broad demand for their skills."

For more information about computing education and the IT workforce, visit the CRA website (www.cra.org) and the CRA Bulletin (www.cra.org/bulletin) ■

| Percentage distribution of 1992-93 CS bachelor's degree recipients' industries in 1994, 1997, and 2003 | | | |
|--|------|------|----------------|
| | 1994 | 1997 | 2003 |
| Education | na | 3.9 | 7.3 |
| Health Care | na | 6.6 | 11.9 |
| Professional & related services | 16.2 | 14.0 | 22.3 |
| Manufacturing | 16.8 | 16.5 | 7.4 |
| Finance, insurance, & real estate | 11.2 | 13.9 | 14.4 |
| Retail & wholesale trade | 7.5 | 6.3 | 5.6 |
| Utilities, communications, transportation | 13.5 | 12.9 | 12.3 |
| Personal/hospitality services, entertainment/recreation | 1.1 | 0.0 | 1.4 |
| Business services | 22.4 | 16.3 | 4.1 |
| Public safety & administration | 8.0 | 5.2 | 3.4 |
| Agriculture, mining, oil, construction | 1.0 | 1.1 | 2.3 |
| Other | 2.4 | 3.2 | 7.6 |
| From Table 11, Baccalaureate & Beyond, NCES | | | CRA: Jay Vegso |

Source: Choy, S.P., and Bradburn, E.M. (2008). "Ten Years After College: Comparing the Employment Experiences of 1992-93 Bachelor's Degree Recipients With Academic and Career-Oriented Majors (NCES 2008-155)." National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC. <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2008155>

The computing research community thanks the following non-board members and former board members who served on CRA committees in 2007-08.

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 Stuart Zweben** (Ohio State University)

** Former CRA board members

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 1, 2008.

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

- On **January 9, 2009**, from the nominations received, the Elections Committee will announce its candidates for the ballot.
- On **February 9, 2009**, 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., industrial lab salaries; 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 and effective teaching.
- 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 1, 2008.** ■

Making Beautiful Music



Pictured above (l-r) are Christopher Raphael (Indiana University), Doug Eck (University of Montreal), and John Sanderson (a music student at Indiana University) whose workshop at Snowbird '08 entitled "Exploring the Interaction Between Computational Science and Music" resonated with all who attended.

New CRA Members

Academic

New Mexico Tech - CS
 Regis University - CIS
 Temple University - CIS
 Texas A&M University, Corpus Christi - CS
 University of Texas, Brownsville - CIS

Labs and Centers

FX Palo Alto Laboratory (FXPAL)
 SCI Institute

Distinguished Service Award Presented



Rick Adrion (left), University of Massachusetts at Amherst, receives CRA's Distinguished Service Award 2008 at Snowbird. Presenting the award is **Dan Reed**, CRA's board chair.

Ladner Receives CRA's 2008 Habermann Award



Pictured above (left) is **Richard Ladner**, University of Washington, who was awarded the 2008 Habermann Award at Snowbird. Presenting is **Andrew Bernat**, CRA's Executive director.

January 30 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 2009.

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/distinguished.service.award>.

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/habermann.award>.

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 30, 2009**.

Current members of the CRA Board of Directors are not eligible for these awards, nor can they submit nominations or letters of support for nominees. ■

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 Drexel University - IST
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 Miami University - CS
 Michigan State University - CSE
 Michigan Technological University - CS
 Mississippi State University - CSE
 Missouri University of Science & Technology - CS
 Montana State University - CS
 Montclair State University - CS
 Mount Holyoke College - CS
 National University of Singapore - CS/IS
 Naval Postgraduate School - CS

New Mexico State University - CS
 New York University - CS
 North Carolina State University - CS
 North Dakota State University - CSOR
 Northeastern University - CIS
 Northwestern University - EECS
 Nova Southeastern University - CS
 Oakland University - CSE
 Ohio State University - CSE
 Ohio University - EECS
 Oklahoma State University - CS
 Old Dominion University - CS
 Oregon State University - EECS
 Pace University - CSIS
 Pennsylvania State University - CSE
 Pennsylvania State University - IST
 Polytechnic University - CIS
 Pomona College - MCS
 Portland State University - CS
 Princeton University - CS
 Purdue University - CS
 Purdue University - ECE
 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
 Tecnológico de Monterrey, ITESM, Monterrey Campus - DTIE *
 Texas A&M University - CS
 Texas State University - CS
 Toyota Technological Institute at Chicago - CS
 Tufts University - CS
 Union College - CS
 University at Albany, SUNY - CI *
 University at Buffalo, SUNY - CSE
 University of Alabama, Birmingham - CIS
 University of Alabama, Tuscaloosa - CS
 University of Alberta - CS
 University of Arizona - CS
 University of Arkansas - CS&CE *
 University of Arkansas at Little Rock - IS&SE
 University of British Columbia - CS
 University of Calgary - CS
 University of California, Berkeley - EECS
 University of California, Berkeley - IMS
 University of California, Davis - CS
 University of California, Irvine - ICS
 University of California, Los Angeles - CS
 University of California, Riverside - CSE
 University of California, San Diego - CSE
 University of California, Santa Barbara - CS
 University of California, Santa Cruz - CE
 University of California, Santa Cruz - CS
 University of Central Arkansas - CS
 University of Central Florida - EECS
 University of Chicago - CS
 University of Cincinnati - CS
 University of Colorado, Boulder - CS
 University of Delaware - CIS
 University of Denver - ECS
 University of Georgia - CS
 University of Hawaii - ICS
 University of Houston - CS
 University of Idaho - CS *
 University of Illinois, Chicago - CS


University of Illinois, Urbana Champaign - CS
 University of Illinois, Urbana Champaign - ECE
 University of Iowa - CS
 University of Kansas - EECS
 University of Kentucky - CS
 University of Louisiana at Lafayette - CACS
 University of Louisville - CECS
 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 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, Arlington - CSE
 University of Texas, Austin - CS
 University of Texas, Dallas - CS
 University of Texas, El Paso - CS
 University of Toronto - CS
 University of Tulsa - 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
 Wellesley College - CS *
 Williams College - CS
 Worcester Polytechnic Institute - CS
 Wright State University - CSE
 Yale University - CS
 York University - CSE

Labs and Centers Members


| | |
|--|---|
| Intel Corporation (<i>Sponsoring Member</i>) | Hewlett-Packard Company |
| Microsoft Corporation (<i>Sustaining Member</i>) | IDA Center for Computing Sciences |
| IBM Research (<i>Supporting Member</i>) | Lawrence Berkeley National Laboratory |
| Sun Microsystems (<i>Supporting Member</i>) | Los Alamos National Laboratory |
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| Google | SCI Institute * |
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Affiliate Professional Society Members


American Association for Artificial Intelligence 

Association for Computing Machinery 

Canadian Association of Computer Science (CACS/AIC)

IEEE Computer Society 

Society for Industrial and Applied Mathematics 

USENIX Association 

*Indicates new members in 2007-08

CRA Hosts Tisdale Fellows

This summer, CRA again welcomed a 2008 Tisdale Fellow, Dustin Cho, a recent graduate of Yale University. Dustin 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 Agilent Technologies, Business Software Alliance, Dell Computers, e-Luminate Group, Inc., Hewlett-Packard, Information Technology Association of America, Philips Corporation, Monster Worldwide, TechNet, and Mehلمان Vogel.

On July 24, CRA hosted a luncheon for the 2008 Tisdale Fellows, after which government affairs director, Peter Harsha, provided a brief overview of CRA's government affairs activities. ■

Tisdale Fellows Visit Congresswoman Anna Eshoo (D-CA).



From left to right: Zhe Peng, Christa Nguyen, Ashish Bakshi, Kate Reimer, Rep. Eshoo, Clararose Voigt, Therin Jones, CRA's Fellow Dustin Cho, John Ryan, James Villarrubia, Joel Mehler, and Kinton Wang.

Shree Nayar Speaks at Snowbird



Shree Nayar, T. C. Chang Chaired Professor in the Department of Computer Science at Columbia University, is seen during his after-dinner talk at CRA's Conference at Snowbird. Attendees enjoyed a fascinating presentation of his research, entitled "Computational Cameras: Redefining the Image."

Transitions, Awards, and Appointments

CRA is pleased to announce the appointment of **Jeffrey Hollingsworth**, University of Maryland, College Park, to its Board of Directors, effective July 15, 2008. He will complete the current term of **Moshe Vardi**, who resigned from the board to devote time to additional responsibilities he has recently undertaken. Vardi had served as a board member since 2001.

MIT recently announced that **Barbara Liskov**, Associate Provost for Faculty Equity and Ford Professor of Engineering in the Department of Electrical Engineering and Computer Science and a member of the Computer Science and Artificial Intelligence Lab, has been named an Institute Professor. This honor is bestowed on individuals who have "demonstrated exceptional distinction by a combination of leadership, accomplishment and service in the scholarly, educational and general intellectual life of the Institute or wider community."

Congratulations to CRA board member, **Jeff Vitter**, who became Provost and Executive Vice President for Academics at Texas A&M University, effective August 15, 2008. Since 2002, Jeff has been the Frederick L. Hovde Dean of the College of Science at Purdue University.

The **Anita Borg Institute** has announced the election of **William Wulf**, University of Virginia, as Chair of its Board of Trustees. Professor Wulf has served as a board member for the past 11 years. Previous chair, Maria Klawe, Harvey Mudd College, will remain as a board member. ■

Grace Hopper Celebration of Women in Computing

'WE BUILD A BETTER WORLD'

Keystone Resort, Colorado—October 1-4, 2008

<http://www.gracehopper.org/>

2009 Tapia Conference Registration Opens September 15

<http://www.tapiaconference.org/2009>

Registration opens September 15, 2008 for the 2009 Richard Tapia Celebration of Diversity in Computing Conference, to be held **April 1-4, 2009** at the **Portland, Oregon** Marriott Downtown Waterfront. The conference brings together diverse leading researchers from around the world to present their work on state-of-the-art research in the field of computing.

The conference theme of "Intellect, Initiative, Insight, and Innovation" will be featured in all aspects of the event, including papers, panels, workshops, posters, Birds-of-a-Feather sessions, the Doctoral Consortium, and the Robotics Competition. The innovators who will give the plenary talks at the Tapia Celebration are:

Dr. Hector Garcia-Molina, Leonard Bosack and Sandra Lerner Professor in the Departments of Computer Science and Electrical Engineering, Stanford University. Dr. Garcia-Molina will give the Ken Kennedy Distinguished Lecture at the Tapia Celebration. The Kennedy lecture is a tribute to Rice University Professor Ken Kennedy, one of the world's foremost experts on high-performance computing who passed away last year.

Dr. Ann Gates, Professor and Chair, Department of Computer Science, The University of Texas at El Paso.

Dr. Charles Isbell, Associate Dean, College of Computing, and Associate Professor, Laboratory for Interactive Artificial Intelligence, Intelligent Systems Group, School of Interactive Computing, College of Computing, Georgia Institute of Technology.

Dr. Jane Margolis, Senior Researcher, Institute for Democracy, Education and Access at the UCLA Graduate School of Education and Information Studies, and author of the recently published book, *Stuck in the Shallow End: Education, Race, and Computing* (MIT Press, 2008).

While the Tapia Celebration is centered on an extensive technical program, the conference also provides a supportive networking environment for under-represented groups across the broad range of computing and information technology, from science to business to the arts to infrastructure. Scholarships are available to support travel and registration for attendees who might not otherwise be able to attend (applications will be accepted through October 15, 2008 at the conference Website). Organizations interested in supporting the conference should write to: funding@tapiaconference.org. Benefits for supporters at several levels are posted on the conference Website. ■

Professional Opportunities

CRN Advertising Policy

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

Auburn University

Department of Computer Science and Software Engineering

Assistant/Associate/Full Professor

The Department of Computer Science and Software Engineering (CSSE) invites applications for multiple tenure-track faculty positions at the Assistant or Associate Professor level to begin Spring or Fall 2009. We encourage candidates from all areas of computer science and software engineering to apply. We are especially interested in candidates specializing in the fields of artificial intelligence or software engineering. Candidates selected for these positions must be able to meet eligibility requirements to work in the United States at the time appointment is scheduled to begin and continue working legally for the proposed term of employment; excellent communication skills required.

Applicants should submit a current curriculum vitae, research vision, teaching philosophy, and the names and addresses of three references to:

Dr. Kai H. Chang, Chair
kchang@eng.auburn.edu (with copy to mcorba@auburn.edu)

The applicant review process will begin September 15, 2008. Detailed announcement of this position can be found at:

<http://www.eng.auburn.edu/csse/>
Auburn University is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.

Bard College

Computer Science Department
Tenure-Track Faculty (Open)

The Bard College Department of Computer Science invites applications for a tenure-track faculty position, level open, beginning in September of 2009. This position is part of an expansion of the faculty that is motivated by the opening of the state-of-the-art Gabrielle H. Reem and Herbert J. Kayden Center for Science and Computation. The department seeks a teacher-scholar to contribute to all levels of our curriculum, which emphasizes undergraduate research, utilizing the laboratories and classrooms in this exciting new facility. In particular, the successful candidate will be able to foster curricular growth where computer science, the science of human-computer interaction, and the electronic arts intersect.

Applications are sought in all areas of computer science, although special consideration will be given to those with research interests in computer graphics, data visualization, computer interfaces, human-computer interaction, or algorithms. Candidates should have or be on track to complete a Ph.D. in computer science or a related area by September of 2009.

Bard is a highly selective co-educational liberal arts college of 1700 students, located in the Hudson Valley 90 minutes north of New York City. For more information on Bard, visit www.bard.edu.

Applications should be sent to:
Computer Science- 6408
Rebecca Thomas
c/o Department of Human Resources
Bard College
PO Box 5000
Annandale-on-Hudson,
New York, NY 12504

Candidates should send a cover letter; curriculum vitae; statements of teaching and research interests, and three letters of reference. Review of applications will begin September 15, 2008, and will continue until the position is filled.

Bard College is an equal opportunity employer and welcomes applications from individuals who contribute to its diversity. AA/EOE

Broad Institute of MIT & Harvard, Cambridge, MA

Computational Research and Development Department

Looking for Computational Expert

Develop algorithms to reconstruct an organism's genome from millions or billions of tiny sequence bits. These data are becoming available now as a result of fundamental innovations in sequencing technology.

Biology background not required. We seek candidates having exceptionally deep computational understanding and abilities, who enjoy solving nearly impossible problems.

Position involves mixture of algorithm design and implementation, rapid prototyping on data sets, analysis of data sets, interaction with laboratory personnel, writing for internal use and publication.

Intense, exciting environment. Work as part of a four-person team in cutting-edge organization with over 100 world-class computational scientists, tackling a wide range of critical issues in genomics and biomedicine.

Requirements: advanced degree in math or computer science, or comparable research experience. Experience/expertise in C++. Excellent oral and written communication skills. Capable of self-directed research within broader goals set by group.

Candidates meeting this are strongly encouraged to apply, regardless of experience level or prior exposure to the field. Apply to us, the Broad Institute of MIT and Harvard, position mit-00005613 at:

<http://www.broad.mit.edu/info/careers>

We are an equal opportunity and affirmative action employer.

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

Scientific Software Development in Computational Biochemistry

Extraordinarily gifted scientific research programmers and computational scientists are sought to join a New York-based interdisciplinary research group pursuing an ambitious, long-term project aimed at achieving major scientific advances in the fields of biochemistry and molecular biology.

Among the group's current research activities is the development of new algorithms and software for large-scale data analysis and simulation both on commodity clusters and on a massively parallel special-purpose supercomputer being built by the group. Successful candidates will have the opportunity to work closely with a number of the world's leading computational chemists and biologists, and 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. Particularly relevant areas of expertise might include parallel computation, scientific computing, molecular dynamics, and large-scale data management and analysis, but specific knowledge of any of these areas is less critical than exceptional intellectual

Assistant Professors, Department of Computer Science



UNIVERSITY OF
CALGARY

The Department of Computer Science, Faculty of Science, at the University of Calgary seeks outstanding candidates for several tenure-track positions at the Assistant Professor level. Applicants from Information Security, Theory, HCI/Information Visualization, and Computer Games are of particular interest. Details for each position appear at: <http://www.cpsc.ucalgary.ca>. Applicants must possess a doctorate in Computer Science or a related discipline at the time of appointment, and have a strong potential to develop an excellent research record.

The Department is one of Canada's leaders as evidenced by our commitment to excellence in research and teaching. It has an expansive graduate program and extensive state-of-the-art computing facilities. Calgary is a multicultural city that is the fastest growing city in Canada. Calgary enjoys a moderate climate located beside the natural beauty of the Rocky Mountains. Further information about the Department is available at <http://www.cpsc.ucalgary.ca>.

Interested applicants should send a CV, a concise description of their research area and program, a statement of teaching philosophy, and arrange to have at least three reference letters sent to: Dr. Frank Maurer, Department of Computer Science, University of Calgary, Calgary, Alberta, Canada, T2N 1N4 or via email to search@cpsc.ucalgary.ca. The applications will be reviewed beginning November 2008 and will continue until the positions are filled.

All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority.

Professional Opportunities

ability and a demonstrated track record of achievement. We are prepared to reward exceptionally well-qualified individuals with above-market compensation.

Please send your resume to:
CRA-sp@career.DEShawResearch.com
EOE

Iowa State University

Electrical and Computer Engineering Department

Faculty Positions

The Electrical and Computer Engineering Department at Iowa State University has immediate openings for faculty positions at all levels.

Applications will be accepted from highly qualified individuals for regular faculty positions in the department in all core areas of expertise in Electrical

or Computer Engineering, especially in COMPUTER ENGINEERING with emphasis on embedded systems; SOFTWARE ENGINEERING; INFORMATION ASSURANCE AND SECURITY; and POWER and energy/power electronics. Exceptional senior candidates in any area may be considered for endowed research chair/professorship positions.

Faculty positions also are available in interdisciplinary research areas as part of Iowa State University College of Engineering's aggressive mission to fill 50 college-wide positions with faculty who possess the talent to address the challenges that define worldwide quality of life and have global impact. The positions are targeted in the following interdisciplinary

research and education cluster areas: Biosciences and Engineering, Energy Sciences and Technology, Engineering for Extreme Events, Information and Decision Sciences, and Engineering for Sustainability.

Duties for all positions will include undergraduate and graduate education, developing and sustaining externally-funded research, graduate student supervision and mentoring, and professional/institutional service.

All candidates must have an earned Ph.D. degree in Electrical Engineering, Computer Engineering, Computer Science, or related field, and they must have potential to excel in the classroom and to establish and maintain a productive externally funded research program. Associate and Full Professor candidates

must, in addition, have an excellent record of externally funded research and internationally recognized scholarship.

Rank and salary are commensurate with qualifications. Screening will begin on November 1, 2008, and will continue until positions are filled. To guarantee consideration, complete applications must be received by January 19, 2009.

For regular faculty positions, apply online at www.iastatejobs.com, Vacancy #080579.

More information on this position can be viewed at:

<http://www.ece.iastate.edu/jobs>

For information on positions in the cluster areas and application process, visit:

<http://www.engineering.iastate.edu/clusters>

(continued)

Radcliffe Institute Fellowships

The Radcliffe Institute for Advanced Study at Harvard University annually awards academic-year fellowships enabling scientists to pursue innovative research while participating in the Institute's diverse scholarly community.

Salil Vadhan, a 2003–2004 Radcliffe fellow, is a Gordon McKay Professor of Computer Science and Applied Mathematics at Harvard who studies the mathematical laws governing computation. Vadhan focused on the generation of objects that falsely appear to be random and considered applying this knowledge in such areas as computerprivacy and security.

Radcliffe science fellows include male and female professors on sabbatical from their home universities in the United States and abroad, as well as scientists from industrial research laboratories. At the Radcliffe Institute, these fellows are able to work in Harvard and other Boston-area labs and with faculty and other fellows to explore new avenues in their research.

Applications for 2009–2010 are due by December 1, 2008. For more information, please visit www.radcliffe.edu or contact us at:

**RADCLIFFE APPLICATION OFFICE
8 GARDEN STREET, CAMBRIDGE, MA 02138
617-496-3048
SCIENCE@RADCLIFFE.EDU**

PHOTO BY TONY RINALDO

 RADCLIFFE INSTITUTE FOR ADVANCED STUDY
HARVARD UNIVERSITY

Professional Opportunities

Candidates may be subject to a background check.

ISU is an EO/AA employer.

Louisiana Tech University Computer Science Program

Faculty Positions

The College of Engineering and Science invites applications for tenure-track faculty positions in our Computer Science Program. Louisiana Tech University has significant strengths in the areas of cyberspace security, distributed data mining, grid computing, and sensor networks. Through a state initiative, the College has recently established a Center for Secure Cyberspace (www.csc.latech.edu). Louisiana Tech is one of six member institutions of the Louisiana Optical Network Initiative, which represents a \$50M investment by the State in computing and networking infrastructure. The infrastructure includes a statewide supercomputing grid connected by a high-bandwidth (40 Gbps) multi-lambda fiber-optic network which is tied to the National Lambda Rail. The total projected computing power of the grid is about 100 Tflops. Ideal candidates should have expertise in one or more of the fields specified below:

- Internet and network security, security in sensor networks
- Electromagnetics for sensing and/or interference of wireless networks
- Secure wireless networks and communications protocols
- High Performance Computing that leverages any of these research areas

Candidates must have an earned Ph.D. degree in Computer Science, Computer Engineering or a closely related field with distinguished record of scholarship commensurate with experience, exceptional potential for world-class research, and a commitment to both undergraduate and graduate education. Excellent oral and written communication skills, a commitment to high quality professional service, and active participation in college responsibilities are expected. Candidates will be considered at all faculty levels (Assistant, Associate, and Full) based upon their experience.

For consideration, please submit in electronic form your curriculum vitae, statement of research and teaching interests, and the names and contact information for at least three references to:

Chair of Cyberspace Security Search Committee
at e-mail: CSSearch@latech.edu

Applications will be reviewed on a continual basis until positions are filled. Please see www.latech.edu/coes for further details.

EEO/AA employer. Women and minorities are encouraged to apply.

National University of Singapore

Kwan Im Thong Hood Cho Temple Professorship

The School of Computing (SoC) at the National University of Singapore (NUS) invites applications and nominations for the Kwan Im Thong Hood Cho Temple (KITHCT) Professorship in Computing. (This Chair is endowed by a temple for the Bodhisattva of Compassion or Goddess of Mercy.)

We seek a renowned scholar at the full Professor level. The successful applicant

is expected to lead an internationally-recognized research group in SoC. The salary and benefits are internationally competitive. The preferred start date is January, 2009.

NUS (www.nus.edu.sg) is a research university, with low teaching loads, excellent facilities and ample research funding (both within NUS and through funding agencies). SoC (www.comp.nus.edu.sg) has about 100 faculty members in two departments: Computer Science (CS) and Information Systems (IS). They regularly publish in prestigious conferences and journals, as well as serve on their program committees and editorial boards.

To apply, please send a resume, statements on research, teaching and leadership, and six references to:

Prof. Y.C. Tay
KITHCT Search Committee Chair
School of Computing
National University of Singapore

Singapore 117590,
Republic of Singapore
(Attn: SoC HR Office,
E-mail: hr-office@comp.nus.edu.sg)

NEC Laboratories America

Systems Architecture Department
Research Staff - Chip Multiprocessing & Parallel Computing

NEC Laboratories America, a premier research facility of NEC Corporation, has multiple openings in the Systems Architecture Department located in Princeton, NJ. We invite applications from exceptional candidates (senior-level or junior-level) for research staff (RSM) and associate research staff (ARSM) positions. The Systems Architecture department's mission is to innovate, design, evaluate and deliver system architecture (hardware and software) solutions to realize high-performance systems.

Candidates for the RSM position must have a PhD in CS, CE, or EE, strong research record and excellent credentials in the international research community. Applicants must be able to propose and execute innovative research projects, including prototyping effort that leads to demonstration in an industry environment. Applicants must demonstrate competency in one or more of the following Systems Architecture areas: parallel programming models and run-times, parallel hardware architectures, system software for chip-level multiprocessors (including operating systems, server/domain-specific middleware), with a focus on high performance.

Candidates for the ARSM position must have at least a MS in CS, CE, or EE, with a strong motivation and skill set to prototype/transfer innovative research results into industry practice. Expertise in one or more areas of Systems



Dean, College of Computing and Informatics The University of North Carolina at Charlotte

The University of North Carolina at Charlotte invites applications and nominations for the position of Dean of the College of Computing and Informatics. Reporting to the Provost and Vice Chancellor for Academic Affairs, the Dean provides leadership for the Departments of Computer Science and Software & Information Systems, a growing interdisciplinary Bioinformatics program, and six affiliated research and community engagement units.

The **College of Computing and Informatics** continues to experience tremendous growth since its establishment in 2000. The College offers an interdisciplinary Ph.D. program in Information Technology with multiple tracks, including Computer Science, Software and Information Systems, and Bioinformatics; M.S. degrees in Computer Science and Information Technology; a Professional Science Master's degree in Bioinformatics; B.S. and B.A. degrees; and certificate programs.

The College has gained national recognition through research institutes, including the Charlotte Visualization Center, the Diversity in Information Technology Institute, and the Center for Digital Identity and Cyber Defense Research. The College is designated a National Center of Academic Excellence in Information Assurance Research by the National Security Agency.

The College has taken a leadership role in developing bioinformatics programs in collaboration with the developers of the North Carolina Research Campus. A billion-dollar, 350-acre research park, less than 20 miles from UNC Charlotte, the N.C. Research Campus was founded to serve as home to research programs in metabolomics and plant genomics and a large number of biotech companies.

The College is housed in Woodward Hall, which opened in 2005. The Bioinformatics Research Center is scheduled to move in August 2009 to a new 75,000 sq. ft. building.

UNC Charlotte is the only doctoral-granting institution in a dynamic urban region of 1.8 million people and offers unparalleled educational opportunities to a culturally diverse student body of more than 23,000. (University homepage: www.uncc.edu.)

The Dean is responsible for academic leadership, strategic planning, faculty appointments, budgetary and administrative oversight, development and alumni affairs, and external relations. Academic and community leadership; effective communication with faculty, staff, and students; consensus building; and fundraising are all part of the day-to-day activities of the Dean.

The Dean should possess an earned doctorate and an outstanding record of scholarly achievement that is appropriate for appointment as a tenured, full professor at a research university; an established national reputation; a proven ability to attract external funding; demonstrated results at leading and developing an academic unit and commitment to student success; experience engaging a diverse university community; and a successful record of establishing relationships within university, business and civic communities, and government agencies.

Charlotte is home to the world headquarters of nine Fortune 500 companies, with Bank of America and Wachovia making it the second largest banking center in the United States. The Charlotte region is consistently ranked as one of the fastest growing and most affordable regions in the United States and is home to over 750 foreign-owned firms representing more than 46 countries.

Application Process: Information about the application process and further details on the position and the College of Computing and Informatics may be found at www.provost.uncc.edu/Searches/DeanCCI.

Confidential nominations may be submitted by mail to the Chair of the Search Committee, Dr. Owen Furuseth, Dean Search, c/o Office of Academic Affairs, UNC Charlotte, 9201 University City Blvd., Charlotte, N.C. 28223, or by email to deansearch@uncc.edu.

UNC Charlotte is committed to equality of educational opportunity and is an affirmative action employer. Minorities, women and individuals with disabilities are encouraged to apply. Finalists are subject to educational and criminal background checks.

Professional Opportunities

Architecture is desirable. Strong interest and aptitude for research is necessary.

NEC Laboratories America Inc. is a US-based facility that is part of NEC Corporation's global network of research laboratories. We conduct research in support of NEC's US and global businesses. Our research program covers areas that reflect the scope and breadth of NEC's Business Units. Ranked as one of the world's top patent-producing companies, NEC Corporation delivers tailored solutions in the key fields of computers, networking and internet systems, by integrating its technical strengths in IT and networks, and by providing advanced semiconductor solutions through NEC Electronics Corporation.

For more information, please visit <http://www.nec-labs.com> and <http://www.nec.com>. Interested applicants should send their resume and a short description of research interests to recruit@nec-labs.com and reference "Systems Architecture" in the subject line.

EOE/AA/MFDV

University of Chicago

Department of Computer Science
Faculty Positions

The Department of Computer Science at the University of Chicago invites applications from exceptionally qualified candidates in all areas of Computer Science for faculty positions at the ranks of Professor, Associate Professor, Assistant Professor, and Instructor. The University of Chicago has the highest standards for scholarship and faculty quality, and encourages collaboration across disciplines.

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

Please send applications or nominations to:

Professor Stuart A. Kurtz, Chairman
Department of Computer Science
The University of Chicago
1100 E. 58th Street, Ryerson Hall
Chicago, IL. 60637-1581
or to: apply-080140@mailman.cs.uchicago.edu
(attachments can be in PDF, postscript, or Word)

Complete applications consist of (a) a curriculum vitae, including a list of publications, (b) forward-looking research and teaching statements. Complete applications for Assistant Professor and Instructor positions also require (c) three letters of recommendation, sent to: recommend-080140@mailman.cs.uchicago.edu or to the above postal address, including one that addresses teaching ability. Applicants must have completed, or will soon complete, a doctorate degree. We will begin screening applications on December 15, 2008. Screening will continue until all available positions are filled.

The University of Chicago is an equal opportunity/affirmative action employer.



Dean
College of Engineering and Applied Sciences
Western Michigan University

Western Michigan University, located in Kalamazoo, Michigan, seeks nominations and applications for the position of Dean of the College of Engineering and Applied Sciences.

The College of Engineering and Applied Sciences has seven academic departments, with programs in engineering, engineering technology, and applied sciences. In Fall 2003, the College moved into the new \$100 million, 270 acre Parkview Engineering Campus. This site includes an engineering complex and a Business Technology and Research Park with more than 30 corporate tenants and a business incubator. The College of Engineering and Applied Sciences offers 17 undergraduate, 9 master's, and 5 doctoral programs. With 90 FTE faculty and 28 staff members, the College teaches more than 2400 students and has approximately \$7.4 million in currently active research grants and contracts. It offers programs and courses primarily on the Parkview Campus in Kalamazoo, but also serves as a significant resource for off-campus instruction and economic growth at six sites across Michigan.

The Dean of the College of Engineering and Applied Sciences must possess, and implement with passion, a vision that will enable the College to create synergy among its various academic disciplines and reach its fullest potential in teaching, research, and the development of alumni and industrial partnerships. Candidates for this position, which reports to the Provost, must demonstrate significant leadership experience, knowledge of current and future issues in engineering education in a global context, and a record of successful participation in sponsored research. He or she must have strong communication skills, a commitment to human diversity in higher education, ability to interact effectively with both internal and external constituents, and a record of acquiring significant gifts. Appropriate experience in assessment and ABET accreditation is required. He or she must also possess academic credentials that qualify for an appointment as full professor with tenure in one of the College's departments.

Review of the candidates will begin October 15, 2008 and continue until a suitable candidate is selected. Applicants should submit electronically the following information:

- Letter describing background and accomplishments that demonstrates how experience matches position's requirements;
- Curriculum vitae;
- Names, phone numbers and addresses (including email) of five references.

Please visit www.wmich.edu/hr/careers-at-wmu.htm for detailed information and application procedures. To learn more about the College of Engineering and Applied Sciences, refer to our website, www.wmich.edu/engineer. For information about Kalamazoo and Southwest Michigan, refer to www.kalamazoo.areaguides.net. For general information, please contact Dr. Joseph Reish (joe.reish@wmich.edu), Dean of University Libraries and Chair of Search Committee for Dean, College of Engineering and Applied Sciences, Western Michigan University, Kalamazoo MI 49008.

Western Michigan University is an Affirmative Action/Equal Opportunity Employer.

University of Oregon

Department of Computer and Information Science
Faculty Positions

The CIS department seeks applicants for one or more full-time tenure-track faculty positions beginning fall, 2009. We anticipate appointments at the rank of Assistant Professor; however, in the case of exceptionally qualified candidates appointments at any rank may be considered. 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 housed within the College of Arts and Sciences and part of the recently dedicated Lorry Lokey Science Complex. The College appreciates the increasing role that computer science plays in other disciplines and supports our goals of strengthening our ties with the other sciences. Applicants interested in interdisciplinary research are encouraged to apply. We offer a stimulating and friendly environment for collaborative

research both within the department and with other departments on campus. The CIS department is associated with the Cognitive and Decision Sciences Institute, the Computational Science Institute, the Neuro-Informatics Center, and the Computational Intelligence Research Laboratory.

This department recognizes that computer science is undergoing rapid change as an academic discipline, and accordingly seeks to hire faculty in emerging areas of computer science as well as more established areas including distributed computing, data mining, networking, computational science (visualization, high performance computing), and HCI (usability, accessibility, interfaces).

The CIS 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.

Applicants must have a Ph.D. in computer science or a closely related field, a demonstrated record of excellence

in research and a strong commitment to teaching. The successful candidates are expected to conduct vigorous research programs, and to teach at both the undergraduate and graduate levels. Applicants should send their curriculum vitae, names of at least four references, a statement of research and teaching interests, and selected publications to: Faculty Search Committee Dept. of Computer and Information Science University of Oregon Eugene, OR 97403-1202 email: faculty.search@cs.uoregon.edu

Review of applications will begin January 5, 2009, and continue until the position is filled.

The University of Oregon is an equal opportunity/affirmative action institution committed to cultural diversity and 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.

Professional Opportunities

University of Pennsylvania

Department of Computer and Information Science

Faculty Positions

The University of Pennsylvania invites applicants for tenure-track appointments in both experimental and theoretical computer science to start July 1, 2009. Tenured appointments will also be considered. Faculty duties include teaching undergraduate and graduate students and conducting high-quality research.

The Department of Computer and Information Science has undergone a major expansion, including new faculty positions and a new building, Levine Hall, which was opened in April 2003. Over the last few years, we have successfully recruited faculty in artificial intelligence, architecture, databases, machine vision, programming languages, security and graphics. We are now especially interested in candidates in architecture and systems, although outstanding candidates in other areas might also be considered. Successful applicants will find Penn to be a stimulating environment conducive to professional growth.

The University of Pennsylvania is an Ivy League University located near the center of Philadelphia, the 5th largest city in the US. Within walking distance of each other are its Schools of Arts and Sciences, Engineering, Medicine, the Wharton School, the Annenberg School of Communication, Nursing, Law, and Fine Arts. The University campus and the Philadelphia area support a rich diversity of scientific, educational, and cultural opportunities, major technology-driven industries such as pharmaceuticals, finance, and aerospace, as well as attractive urban and suburban residential neighborhoods. Princeton and New York

City are within commuting distance.

To apply, please complete the form located on the Faculty Recruitment Web Site at:

<http://www.cis.upenn.edu/departamental/facultyRecruiting.shtml>

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

Chair, Faculty Search Committee
Department of Computer and Information Science
School of Engineering and Applied Science

University of Pennsylvania
Philadelphia, PA 19104-6389

Applications should be received by January 15, 2009 to be assured full consideration. Applications will be accepted until positions are filled.

Questions can be addressed to:
faculty-search@central.cis.upenn.edu

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

The University of Texas at Austin

Department of Computer Sciences
Tenured/Tenure Track Faculty Position

The Department of Computer Sciences of the University of Texas at Austin invites applications for tenure-track positions at all levels in the area of Computer Architecture. All tenured and tenure-track positions require a Ph.D. or equivalent degree in computer science or a related area at the time of employment, and at least two (2) years of post-PhD experience at the time of application. Successful candidates are expected to pursue an active research program, to teach both graduate and undergraduate courses, and to supervise graduate students. The department is ranked among the top ten computer science departments in the country. It has 46 tenured and tenure-track faculty members across all areas of computer science. Many of these faculty participate in interdisciplinary programs and centers in the University, including those in Computational and Applied Mathematics, Computational Biology, and Neuroscience.

Austin, the capital of Texas, is located on the Colorado River, at the edge of the Texas Hill Country, and is famous for its live music and outdoor recreation. Austin is also a center for high-technology industry, including companies such as IBM, Dell, Freescale Semiconductor, Advanced Micro Devices, National Instruments, AT&T, Intel and Samsung. For more information please see the department web page:

<http://www.cs.utexas.edu/>

The department prefers to receive applications online, beginning August 1, 2008. To submit yours, please visit

<http://recruiting.cs.utexas.edu/faculty/>

If you cannot apply online, please send a curriculum vitae, home page URL, description of research interests, and selected publications, and ask three referees to send letters of reference directly to:

Faculty Search Committee
Department of Computer Sciences
The University of Texas at Austin
1 University Station C0500
Austin, Texas 78712-0233, USA

Inquiries about your application may be directed to faculty-search@cs.utexas.edu. For full consideration of your application, please apply by October 31, 2008.

Women and minority candidates are especially encouraged to apply. The University of Texas at Austin is an Affirmative Action/Equal Opportunity Employer.

York University, Toronto

Department of Computer Science and Engineering

Faculty Position

The Department of Computer Science and Engineering invites faculty applications in computer graphics with emphasis on digital media, animation and/or interactive/3D systems at the Assistant Professor level in the tenure track stream. The successful candidate will have expertise in computer graphic techniques, in innovating either fundamental rendering and/or animation techniques or novel methods for the integration of graphics and animation techniques in interactive systems. The deadline for applications is November 15, 2008.

For further information, please visit:
<http://yorku.ca/acadjobs>

York University is an Affirmative Action Employer

Science Funding from Page 1

these sorts of special interest exemptions. The number of special interest communities who would seek an exemption if they were available is large, and increasing funding for science is not generally seen as a way to significantly increase political support among the typical Member's constituency.

However, a similar test of the science community's ability to earn special treatment in funding did provide a small victory for the community during consideration of the FY 2008 Supplemental Appropriations bill. The "supplemental" is a vehicle used to fund the ongoing military operations in Afghanistan and Iraq, which are not funded as part of the normal appropriations process. The bill provides an opportunity for congressional policymakers to add additional "emergency" funding for other expenses unrelated to war. This year, despite an extremely competitive and contentious atmosphere around the supplemental,³ the science community was able to score a somewhat symbolic victory by convincing Congress to add \$400 million in funding for science. The victory feels "symbolic" because the \$400 million fell well short of the more than \$1 billion increase in science

funding approved by Congress for FY 2008 but not appropriated in the final omnibus. Out of that \$400 million, DOE Science and NSF receive just \$62.5 million each, and out of that \$62.5 million, NSF's research account will see an addition of only \$17.5 million for FY 2008.

Beyond the continuing resolution fight, members of the science advocacy community are also doing their best to prepare for a post-Bush White House. It appears likely that the Democrats will retain their control of Congress—the only question will be the size of their majority after the November elections. But a change in the Administration could mean a dramatic change in the environment for funding in the coming years. In the simplest analysis, a victory by presumptive Democratic nominee Barack Obama would represent the most significant departure from the status quo in Washington.

A Democratic majority in Congress would no longer be fighting for its priorities against a Republican president who enjoys just enough support in Congress to frustrate most Democratic efforts. Obama's platform includes many of the funding recommendations found in both the America COMPETES Act and

the influential National Academies' *Rising Above the Gathering Storm* report that motivated the COMPETES Act, such as calling for the doubling of the research budgets of NSF, NIST and DOE Science over the next seven years. His campaign has also been reaching out fairly actively to the academic community for guidance in innovation and research policy.

The impact of a victory by presumptive Republican nominee John McCain is a little more difficult to judge. While Chairman of the Senate Committee on Commerce, Science and Transportation, McCain left most of the science-related work to his subcommittee chairs. He was not a co-sponsor of the Senate version of the COMPETES Act (S. 761), though 69 of his Republican and Democratic colleagues were. His platform is also somewhat silent on science funding, his innovation platform only expressing support for the Research and Development Tax Credit and increasing the H-1B Visa cap. But he is closely advised by one of the biggest champions for science funding and innovation policies in the U.S. Senate, Sen. Joseph Lieberman (I-CT), who has been accompanying him on the stump throughout his campaign. It would appear, how-

ever, that a victory by McCain might more closely resemble the status quo than an Obama victory.

In either case, a change in Administration creates a new opportunity to make the case for science to a whole new set of policymakers (or, at least, a set of policymakers in new positions), and CRA, along with the rest of the science community in Washington, will be there telling our story.

For all the latest details on the FY 2009 appropriations process and science advocacy efforts, check the *Computing Research Policy Blog* at <http://cra.org/blog>.

Notes:

1. See "Science Increases Abandoned in Final 08 Spending Bill," *Computing Research News*, Vol. 20/No. 2. Available at: http://www.cra.org/CRN/articles/march08/harsha_science_abandoned.html
2. See "Congress Protects Science Funding in Final Appropriations," *Computing Research News*, Vol. 19/No. 2. Available at: <http://www.cra.org/CRN/articles/march07/harsha.html>
3. For more, see "Science Community Seeks Supplemental Funding for FY08," *Computing Research News*, Vol. 20/No. 3. Available at: <http://www.cra.org/CRN/articles/may08/harsha.html> ■