COMPUTING RESEARCH NEWS

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Symposium Marks 20 Years of Coordinated Federal Investment in Networking and Information Technology R&D, Prospects for the Future

By Erwin P. Gianchandani

On Thursday, February 16, more than 150 Federal officials, Congressional staffers, academic researchers, and industry leaders packed a room overlooking the United States Capitol to mark two decades of coordinated Federal investment in networking and information technology research and development with a daylong symposium exploring progress and prospects in the field. Complete materials from this extraordinary day—including videos, slides, and written summaries from nearly twenty 15-minute presentations by leaders of the field, plus a luncheon keynote by former Vice President Al Gore, a longtime champion of information technology R&D—are available on the web at: http://cra.org/ccc/theimpactofnitrd.

Organized by the Computing Community Consortium, the symposium, titled **"The Impact of NITRD: Two Decades of Game-Changing Breakthroughs in Networking and Information Technology—Expanding Possibilities Ahead,"** marked 20 years of the Federal Government's Networking and Information Technology Research and Development (NITRD) Program. Chartered by Congress under the High-Performance Computing Act of 1991—legislation sponsored by then-Senator Gore—as well as the Next Generation Internet Research Act of 1998 and the America COMPETES Act of 2007, the NITRD Program is the oldest and largest of the small number of formal Federal programs that engage multiple agencies.

Originally comprising 8 agencies, today it provides a framework and mechanisms for coordination among 15 Federal agencies that support networking and information technology research and development. In particular, the program facilitates cooperation and coordination across a broad landscape, enabling these agencies to tackle the inherently multidisciplinary, multitechnology, and multisector challenges of today's R&D horizons. The Program's success in collaboration has come to be viewed as a model Federal R&D effort that leverages agencies' strengths and avoids duplication.

Former Vice President Al Gore, the keynote speaker at the NITRD Symposium on February 16.

The current co-chairs of the multiagency NITRD Subcommittee to the National Science and Technology Council's (NSTC) Committee on Technology—**George Strawn,** the director of the National Coordination Office for NITRD, and **Farnam Jahanian,** Assistant Director for Computer and Information Science and Engineering at the National Science Foundation—kicked off the day. Jahanian described the information technology discovery and innovation ecosystem, emphasizing how advances in networking and information technology are the result of a complex public-private partnership spanning academia, industry, and government; how

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Highlights of the CISE Fiscal Year 2013 Budget Request

By Farnam Jahanian

On February 13, the President delivered the Fiscal Year 2013 Budget to Congress. The Administration is requesting a total of nearly $7.4 billion dollars for NSF, which is an increase of $340 million, or almost five percent, over the FY 2012 NSF Enacted level. The Request also includes an increase of $56 million, or 8.6 percent, over the FY 2012 Current Plan for the Computer and Information Science and Engineering Directorate (CISE), for a total of $709.7 million. For more information on the NSF FY 2013 budget, see: http://www.nsf.gov/about/budget/fy2013/index.jsp.

As the NSF Director, Dr. Subra Suresh, stated at the NSF FY 2013 Budget Rollout, "There is overwhelming consensus that scientific discovery and technological innovation, driven by a creative and skilled science and engineering workforce, are the engines of economic growth.... Sustained momentum in NSF's core programs is essential for progress in science and engineering." I couldn't agree more and would like to take this opportunity to reaffirm CISE's strong commitment to its core basic research programs. We continue to cast a wide net and to let the best ideas surface. Requested funding for each of CISE's three divisions—Computing and Communications Foundations (CCF), Computer and Network Systems (CNS), and Information and Intelligent Systems (IIS)—is increased by approximately nine percent in the FY 2013 Request. This funding will support a broad range of ambitious, long-term research in computer, communication, and information science and engineering.

The CISE FY 2013 Request is shaped by investments in its core basic research, education, and infrastructure programs as well as by those included in the Foundation-wide OneNSF vision. OneNSF aligns closely with the Administration's priorities and increases support for fundamental research in all fields of science and engineering. I wish to highlight several NSF-wide programs in which CISE is significantly involved:

Secure and Trustworthy Cyberspace (SaTC): Under OneNSF and in partnership with other NSF Directorates, CISE provides the scientific and engineering leadership for SaTC. This investment seeks to protect the Nation's critical information technology infrastructure, including the Internet, from a wide range of threats that challenge its security and reliability. SaTC emphasizes the long-term investments needed across computer science, engineering, statistics, mathematics, economics, and social science to support scientific foundations for trustworthy systems, induce change, maximize research impact, and, ultimately, transition new concepts and technologies into practice. [CISE will contribute $69 million to SaTC, an increase of 25.5% over the FY 2012 Current Plan.]

Smart Systems and Robotics: Also under OneNSF, the Cyber-enabled Materials, Manufacturing, and Smart Systems (CEMMSS) program is a path-breaking effort to develop "smart systems" that can sense, respond, and adapt to changes in the environment. This program brings together researchers and educators from the areas of

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Expanding the Pipeline

Where are the Minorities in Computing?

By Valerie E.Taylor and Richard E. Ladner

It is well recognized that increasing the diversity of the workforce is very important to the field of computing. In this article we focus on diversity within doctoral programs because it has a significant impact on diversity among both faculty members and researchers in industry and government labs. In particular, we focus on the source of minority students for graduate programs in computer science with respect to the following underrepresented groups: African Americans, Hispanics, and American Indian or Alaska Natives.

In the December 2011 issue of the CACM, the authors published an article on the need to consider different sources of data when investigating trends about the demographics of the computing field. We use this as a starting point for this article to address the issue of where the minorities are with respect to the bachelor's degree because these students are the candidates for the graduate programs.

In an effort to identify trends in graduation rates for ethnic minorities, the Center for Minorities and People with Disabilities in IT (CMD-IT, http://www.cmd-it.org) accessed data from the following two databases:

1. Computing Research Association (CRA) Taulbee reports (http://www.cra.org/resources/taulbee/) for Computer Science only.
2. WebCASPAR (https://webcaspar.nsf.gov/), using IPEDS/NCES (the Integrated Postsecondary Education Data System [IPEDS]), a survey conducted by the Department of Education's National Center for Education Statistics (NCES) to obtain data for Race and Ethnicity. The WebCASPAR database provides easy access to a large body of statistical data resources for science and engineering at U.S. academic institutions. The focus, however, is on the field of Computer Science.

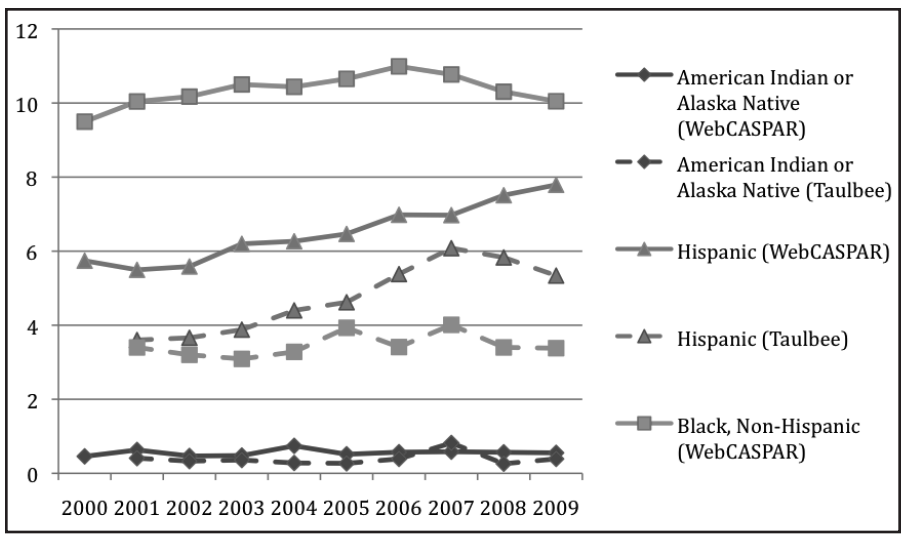


Figure 1: WebCASPAR & Taulbee Data for Percentage of BS Degrees Awarded to Minorities.

Bachelor's degree graduation rates for the past 10 years from the two data sources are shown in Figure 1. It is noted that the number of institutions for the bachelor's degree from the two data sources are vastly different. For example, for 2009 WebCASPAR included at least 1,283 institutions for the bachelor's degree, 442 institutions for master's degree, and 97 institutions for the doctorate degree. In particular, the institution counts correspond to those that reported awarding at least one degree at the given level. By contrast, for the 2009-10 academic year, the CRA Taulbee data are based on completed surveys from 150 CS Programs, almost all of which have PhD programs.

As indicated in the CACM article, there is a significant difference in the trends reported by the two data sources regarding minorities. For WebCASPAR, the percentage for Black is in the 10% to 11% range, in contrast to 3% to 4% indicated for Taulbee. In the case of Hispanics, there is some difference in the percentages, with WebCASPAR indicating percentages in the range of 5% to 8% and Taulbee indicating percentages in the range of 3% to 6%. In the case of American Indian/Alaska Native, the percentages are less than 1% for both data sources. Further, it is noted that the Taulbee data indicate a recent decline in the percentage of Hispanic bachelor's degrees in contrast to the WebCASPAR data, which indicate a recent increase in the percentage of Hispanic bachelor's degrees.

For the WebCASPAR data, we also extracted the data given in Figure 1 sorted by institution classification according to the standard Carnegie Classification [http://classifications.carnegiefoundation.org]. For completeness, we provide a short summary of the classifications below that are important for this article. The numbers in parentheses identify the current number of institutions in the given category.

- Institutions that awarded at least 20 research doctorates during the

Expanding the Pipeline - Continued on Page 10

Table 1: Number of Bachelor's Degrees Awarded to Minorities in 2005 by Carnegie Classification [Data Source: WebCASPAR]

Year: 2005
Carnegie Classification 2010, Basic (survey-specific): All values
Race & Ethnicity (standardized): Black, Non-Hispanic, American Indian or Alaska Native, Hispanic
Academic Discipline, Detailed (standardized): Computer Science
Level of Degree or Other Award: Bachelor's Degrees

Race & Ethnicity (standardized)	Black, Non-Hispanic	American Indian or Alaska Native	Hispanic
Carnegie Classification 2010, Basic (survey-specific)			
Research Universities-Very High Research Activity	446	34	356
Research Universities-High Research Activity	503	18	350
Doctoral/Research Universities	549	22	386
Master's Colleges and Universities	2,987	147	1,577
Baccalaureate Colleges	1,083	31	661
Associate's Colleges	4	1	4
Special Focus Institutions-Schools of engineering	10	2	2
Special Focus Institutions-Other	209	20	185
Tribal Colleges		5	
Not Classified	24	1	8
Total	5,815	281	3,529

Despite Austere Budget, Science Would See Increases in President's Plan

By Peter Harsha

In his last annual budget request before facing voters this November, President Obama showed his commitment to debt reduction by calling for cuts across almost all Federal agencies. But amidst the cuts, the President's budget contains some key investments in research and development, including increased investments in computing research, that demonstrate his belief that Federally supported research can help spark the innovation required to keep the Nation placed at the top of an increasingly competitive world.

The President's budget, released on February 13, 2012, sticks to tight discretionary spending caps agreed to in the Budget Control Act of 2011—caps that would amount to nearly $1 trillion in deficit savings over the next decade. Though nearly every Federal agency would receive cuts to some programs under the proposal, key Federal science agencies would actually see increases in FY 2013 compared to FY 2012. In good news for computing researchers, key computing accounts would see even higher percentage increases than the overall R&D average increases under the President's plan.

The National Science Foundation (NSF), National Institute of Standards and Technology (NIST), and the Department of Energy's Office of Science—three agencies identified in the *America COMPETES Act of 2009* as key to the Nation's productivity prowess—would all see increases in the President's budget. Computing accounts in each agency fared disproportionately well. Research at the Defense Department, especially basic research, holds its own despite a one-percent cut across the Department.

National Science Foundation

NSF "fared very well," announced NSF Director Subra Suresh during his agency's budget briefing on February 13. The agency garnered an increase of $340 million in FY 2013 compared to FY 2012, an increase of nearly 5 percent. Computing research, in particular, did even better. The agency's Computer and Information Science and Engineering directorate (CISE)—the home for fundamental computing research at the agency—would see an increase of 8.6 percent in the President's plan, the highest percentage increase among all the major science directorates.

How does computing warrant this seemingly preferential treatment? In large part, the reason lies with the agency's new priorities—a suite of mostly new initiatives announced by Suresh under what he called the new "OneNSF Framework." In each, computing plays a key, or even foundational, role:

- Cyber-enabled Materials, Manufacturing, and Smart Systems (CEMMS)—$247 million across the foundation, including $91 million in CISE;
- Cyberinfrastructure Framework for 21st Century Science and Engineering (CIF21)—$106 million NSF-wide, $16 million in CISE;
- Expeditions in Education (E2)—$49 million NSF-wide, $4 million in CISE;
- NSF Innovation Corps (I-Corps)—$19 million NSF-wide, $6 million in CISE;
- Integrated NSF Support Promoting Interdisciplinary Research and Education (INSPIRE)—$63 million NSF-wide, $4 million in CISE;
- Secure and Trustworthy Cyberspace (SaTC)—$110 million NSF-wide, $69 million in CISE;
- Science, Engineering, and Education for Sustainability (SEES)—$203 million NSF-wide, $11.5 million in CISE.

While some of this funding represents research already funded under different programs—for example, CISE already supports research in CEMMS through the ongoing work in Cyber-physical Systems and the National Robotics Initiative, as well as through the now discontinued Cyber-enabled Discovery and Innovation program—much of it is new money for the directorate. In addition, the directorate is funneling $17 million from three programs that have ended (Network Science and Engineering [NetSE], Social-Computational Systems, and the Interface between Computer Science and Economic and Social Sciences [ICES]), into core CISE research areas. This process of identifying new initiatives, securing new funding for them, letting them run their course, and then ending them and folding that money back into the CISE core is key to growing the CISE budget, and the Foundation budget as well, over time.

In addition to the cross-agency priorities, CISE maintains a number of CISE-level crosscutting programs, including the Expeditions in Computing program, the Computing Education for the 21st Century program (which includes CISE efforts in computing education, research on teaching and learning, and broadening participation), Smart Health and Wellbeing, Enhancing Access to the Radio Spectrum (EARS), and Mid-scale Research Infrastructure, which includes increasing the "GENI footprint" and pushing ahead with US Ignite.

Finally, in his detailed briefing on the CISE directorate during the budget release, CISE AD Farnam Jahanian stressed that while there's a focus on the initiatives in this budget, the net result for the CISE "core" research areas is very positive. Put simply, as CISE grows, so grows the CISE core. And CISE will continue to grow as long as computing continues to stay relevant to national priorities and the priorities of the Foundation.

Department of Energy's Office of Science

DOE's Office of Science would receive an increase of 2.4 percent over FY 2012 under the President's plan for FY 2013, to a total of $5 billion. Within the Office of Science, the Advanced Scientific Computing Research (ASCR) program, home to much of the computing research at DOE, would see a 3.3 percent increase, to $456 million in FY 2013. Basic Energy Science would also receive an increase to $1.8 billion, an increase of 6.6 percent. Hardest hit in the Office of Science is the Workforce Development for Teachers and Scientists program. It would lose $4 million, or 21.6 percent of its FY 2012 funding. Also losing out in the agency's budget were the Office's high-energy physics, nuclear physics and fusion energy science program, which would see cuts of 1.8 percent, 3.6 percent, and 0.8 percent, respectively.

DOE's Advanced Research Projects Agency-Energy (ARPA-E) would see a significant funding increase in the President's plan, increasing 27.5 percent in FY 2013 to $325 million. This is a $70 million increase over FY 2012. In addition, the agency is asking for $25 million in "program direction," which would allow them to hire more federal employees, support contractors, lease space, and increase IT purchases. However, the likelihood is pretty slim that Congress will approve the increases for personnel, space, and equipment, given the current spending climate in Washington.

Department of Defense

The President's budget calls for an overall decrease of one percent to the DOD budget, but defense research programs across the services and at DARPA end up essentially flat compared to FY 2012. The White House requested an increase of just $1 million to its overall basic research account (6.1) in FY 2013, increasing it to $2.117 billion (compared to $2.116 billion in FY 2012). However, applied research (6.2) and advanced technology development (6.3) are both down. 6.2 would see a drop of $270 million to $4.478 billion in FY 2013; 6.3 would see a drop of $297 million to $5.266 billion.

DARPA would see a very slight increase overall compared with FY 2012. The agency has requested $2.746 billion in FY 2013, up $2 million from its final FY 2012 level. 6.1 research at DARPA would rise $20 million under the President's plan to $349 million. 6.2 research would fall $136 million to $1.175 billion, and 6.3 would drop $46 million to $1.222 billion.

Looking Ahead

The President's budget request is just the first step in the annual process of setting the Federal budget. Congress will now take its crack at reaching a budget agreement; then the authorization and appropriations battles for the agencies will start in earnest later this year. Because this is an election year, it is unlikely Members of Congress will want a vote on a tough budget before November 6. Those looking for finality in FY 2013 funding levels will likely have to wait until well after the start of the new fiscal year October 1, and probably more likely until late November or December at the earliest.

In the meantime, keep up with the latest happenings, and get much more detail on what's in the President's budget, by visiting the Computing Research Policy Blog at http://cra.org/blog.

New CRA Clearinghouse for Disseminating Research Results

In recent years, there has been much discussion in the Computing Research community regarding scholarly publication: how we communicate and evaluate our ideas. We have a complex, multi-layered system of workshops, conferences, and journals, each of which has evolved as our field has grown. Some sub-fields of computing are experimenting with new ways to publish. To advance this dialog across the many sub-fields of computing, the CRA has developed a web page as a clearinghouse for information related to scholarly publication in computing and related fields.

Please visit http://cra.org/scholarlypub. If you learn of relevant information that we should point to from this clearinghouse, contact H.V. Jagadish (jag@umich.edu).

Heads Up: Taulbee Survey to Receive a New Look

By Stu Zweben and Betsy Bizot

In the May issue of *CRN,* we expect to publish this year's full Taulbee report. Beginning this year, we no longer will stratify the U.S. computer science department data based on National Research Council rankings. Instead, stratification dimensions will include whether the institution is public or private, tenure-track faculty size of the reporting department, and the population of the locale in which the institution is located. This will allow our readers to get multiple views of important data, and hopefully gain new insights from them. These dimensions were recommended by the CRA Surveys Committee, and approved by the CRA Board of Directors, following extensive discussion of various options.

Tables that used to report U.S. CS data by NRC rank generally will report data stratified by public vs. private. Salary data also will be stratified using the other dimensions and will be reported via "box and whiskers" diagrams that show medians, quartiles, and the range between the 10th and 90th percentile (see insert for a description of these diagrams). Degree, enrollment and research expenditure data will be normalized and stratified by size of tenure-track faculty, and also will be presented using box and whiskers diagrams.

To illustrate the idea, and to give you some basis for comparing this year's report to data from last year, we reproduce a few selected data below using these new methods. At this year's Snowbird Conference, we will have an opportunity to get feedback from you about the new reporting, so that we may best provide what you need and continue improving the value of the survey to you, our constituents.

Example 1: Ph.D total enrollment. Table P6 and Figure 1 show the Ph.D. enrollment data for fall 2010. The table is an update of Table 6 of the 2010 Taulbee Survey report, with entries showing the total doctoral enrollment for each department type. The diagram is new and provides more detailed distributional information by department type; U.S. CS departments are further stratified based on tenure-track faculty size. These faculty size strata overlap so that a department generally falls into more than one stratum, allowing a wider base of comparison particularly for those departments that fall near the boundary of a given stratum. To produce the distributions illustrated in the diagram, the doctoral enrollment data provided by a department was first normalized by the number of tenure-track faculty in that department.

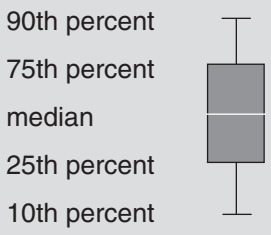
Example 2: Bachelor's degree recipients. Table B3 and Figure 2 show the bachelor's degree recipient data for 2009-2010. The table is an update of Table 11a of the 2010 Taulbee Survey report, showing total bachelor's degrees granted for each department type; the box and whiskers diagram follows the same approach as described in example 1, using the bachelor's degree recipient data reported by the various departments.

Example 3. Research expenditures. Table E1 shows the research expenditure data by department type. This is an update of Table 24-1 of the 2010 Taulbee Survey report. The box and whiskers diagram in Figure 3 shows the distribution of 2009-10 research expenditures per tenure-track faculty, using the stratification method of the previous examples. The data for this diagram originally were reported in Table 24-2 of the 2010 Taulbee Survey.

Example 4. Assistant Professor salaries. The box and whiskers diagram in Figure 4 shows the salary distribution for assistant professors as of January 2010, based on data reported in the 2010 Taulbee Survey report. The data used here are the assistant professor average salaries reported by the various departments in that survey. So a box and whiskers shows the 10th, 25th, 50th, 75th and 90th percentiles of the average assistant professor salaries for departments falling into the particular stratum. This means they are not true percentiles of the *individual* assistant

Reading the Box and Whiskers diagrams:

The "box" part of a box and whiskers shows the range from the 25th percentile to the 75th percentile of the distribution. The horizontal line inside the box represents the median of the distribution. The endpoints of the "whiskers" part of a box and whiskers show the 10th and 90th percentiles.



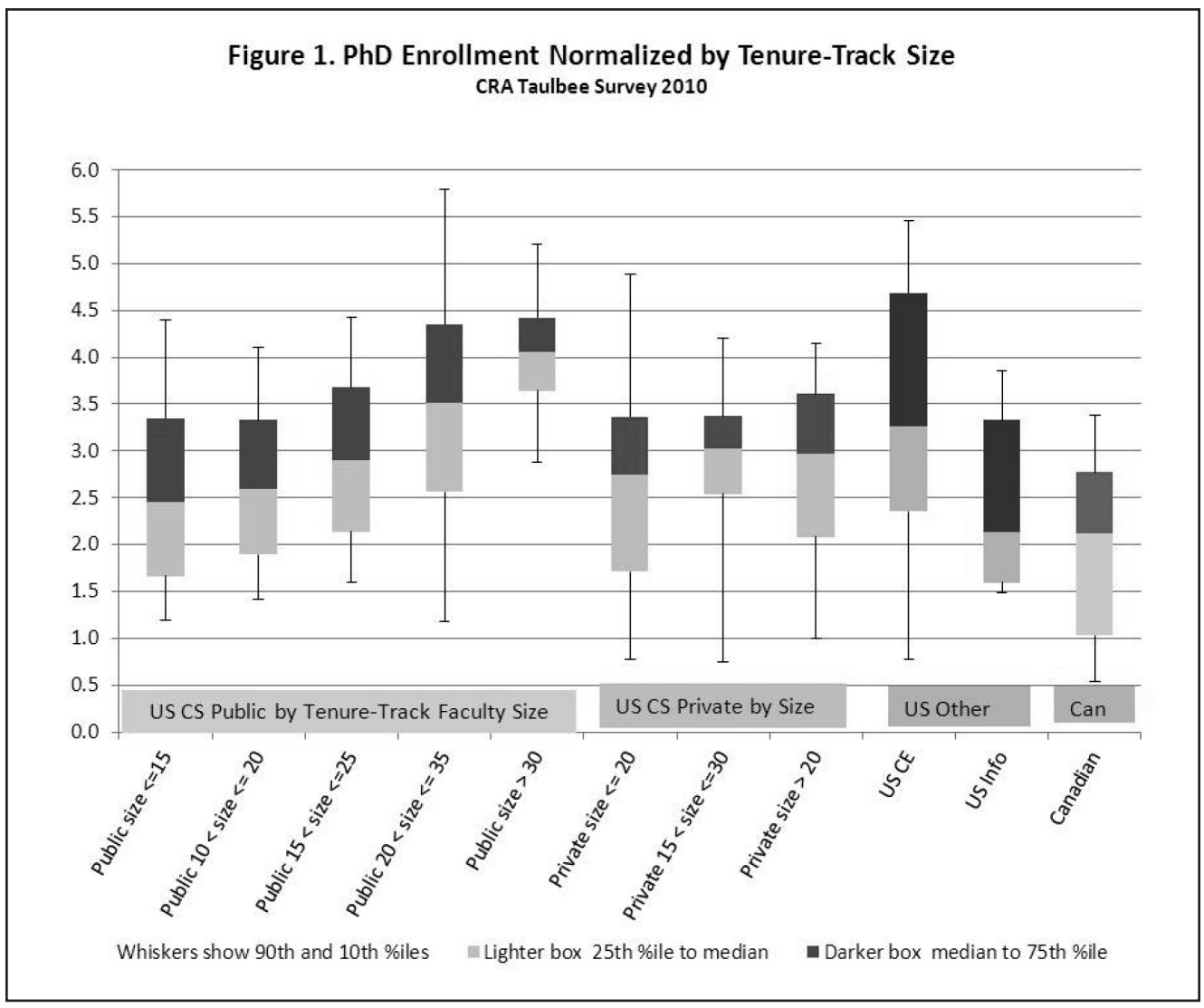


Table P6. PhD Degree Total Enrollment by Department Type

Department Type	# Depts	CS		CE		I		Total	
US CS Public	109	8,521	67.3%	644	46.7%	372	37.4%	2,117	14.1%
US CS Private	40	2,825	22.3%	113	8.2%	7	0.7%	2,945	19.6%
Total US CS	150	11,346	89.6%	757	54.9%	379	38.1%	12,482	83.0%
US CE	12	0	0.0%	532	38.6%	30	3.0%	562	3.7%
US Info	13	0	0.0%	0	0.0%	585	58.9%	585	3.9%
Canadian	18	1,320	10.4%	89	6.5%	0	0.0%	1,409	9.4%
Grand Total	192	12,666		1,378		994		15,038	

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professor salaries (the true percentiles of the individual salary data were provided to those departments that provided individual data). Two sets of strata are used for U.S. CS salary data—one is based on tenure-track faculty size, as above, while the other is based on the population of the geographic locale in which the department's institution is located. Both are illustrated in the diagram. In this stratification, "large city" is one whose metropolitan area population is at least 250,000. "Midsize city" is one whose metropolitan area population falls between 100,000 and 250,000.

Observations

Though variances can be large, it appears that, per tenure-track faculty member, the larger departments at public universities had higher Ph.D. enrollment, produced more bachelor's degrees, and had greater research expenditures than did smaller public departments. Private exhibit these tendencies to a lesser degree, particularly with respect to research expenditures. However, there are a smaller number of strata for comparison in the cluster of private institutions.

Assistant professor salaries at private institutions tended to be higher than those at public institutions regardless of the size of the department. However, at each type of institution, larger departments tended to have higher salaries, and departments located in larger locales tended to have higher salaries.

We hope you will find the new presentations useful. ∎

Stuart Zweben, *Ohio State University (Emeritus) is Chair of CRA's Surveys Committee.* **Betsy Bizot** *is Director of Statistics and Evaluation at CRA.*

Table B3. Bachelor's Degrees Awarded by Department Type

Department Type	# Depts	CS		CE		I		Total	
US CS Public	107	5,961	66.2%	1,007	63.2%	519	27.3%	7,487	59.9%
US CS Private	40	1,875	20.8%	198	12.4%	344	18.1%	2,417	19.3%
Total US CS	147	7,836	87.0%	1,205	75.6%	863	45.4%	9,904	79.2%
US CE	12	0	0.0%	286	18.0%	13	0.7%	299	2.4%
US Info	13	0	0.0%	0	0.0%	1,001	52.7%	1,001	8.0%
Canadian	18	1,172	13.0%	102	6.4%	23	1.2%	1,297	10.4%
Grand Total	190	9,008		1,593		1,900		12,501	

Figure 2. BS Degrees Awarded Normalized by Tenure-Track Size
CRA Taulbee Survey 2010

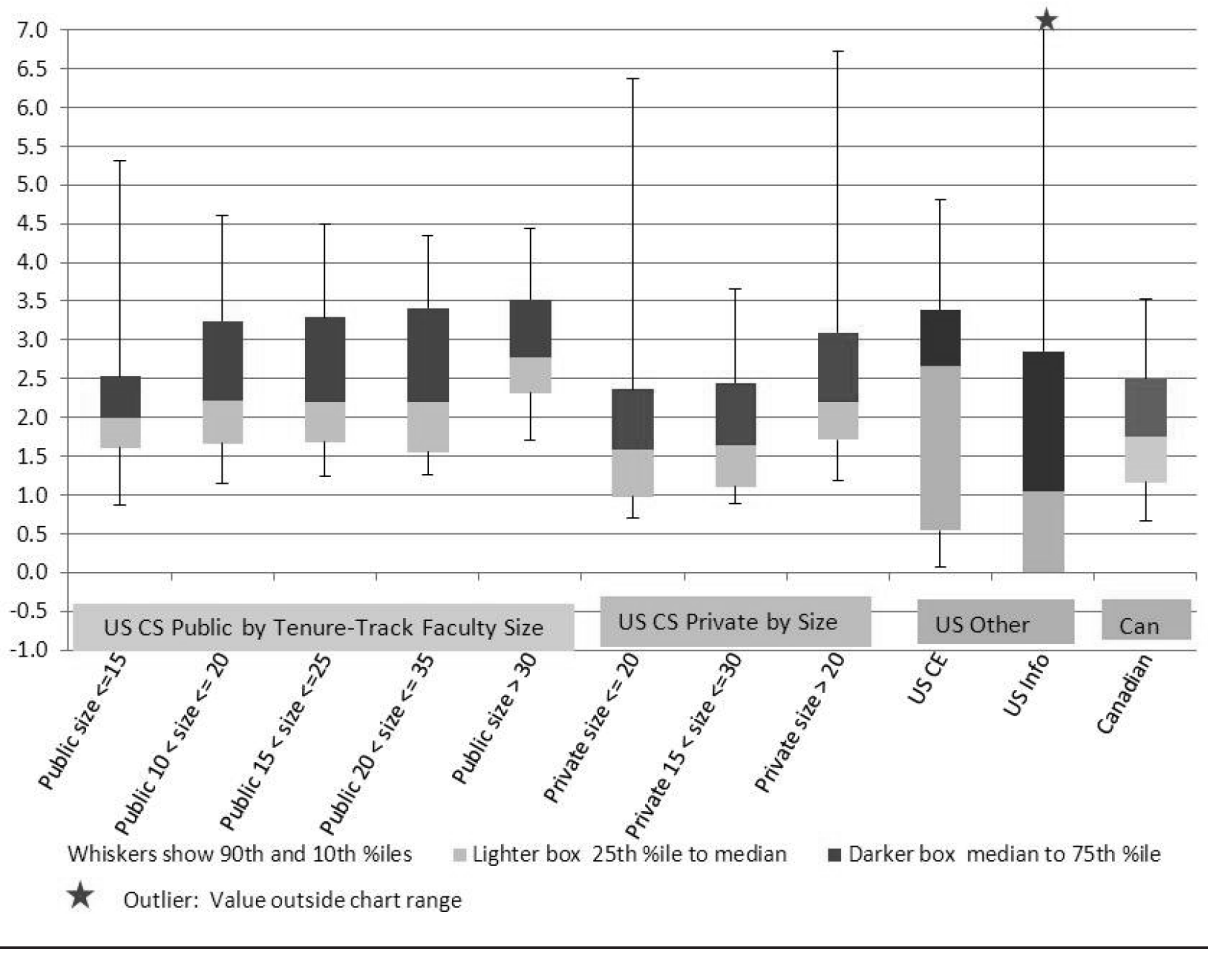

Table E1. Research Expenditures Per Capita Tenure-Track Faculty, by Department Type

Department Type	# Depts	10th percentile	1st quartile	Median	3rd quartile	90th percentile
US CS Public	94	$384,943	$1,154,239	$3,106,587	$5,985,676	$13,277,500
US CS Private	34	$762,007	$1,731,669	$3,525,335	$7,974,328	$16,407,584
Total US CS	128	$477,209	$1,254,142	$3,288,124	$6,242,526	$13,829,150
US CE	8			$4,476,107*		
US Info	12	$563,549	$1,630,698	$3,042,284	$4,352,168	$9,292,174
Total US	148	$477,209	$1,357,977	$3,388,566	$6,064,015	$12,657,837
Canadian	12	$150,946	$672,488	$2,202,253	$4,285,967	$35,482,007

* Only median is reported for categories with fewer than 10 departments responding

Heads Up Tables - Continued on Page 6

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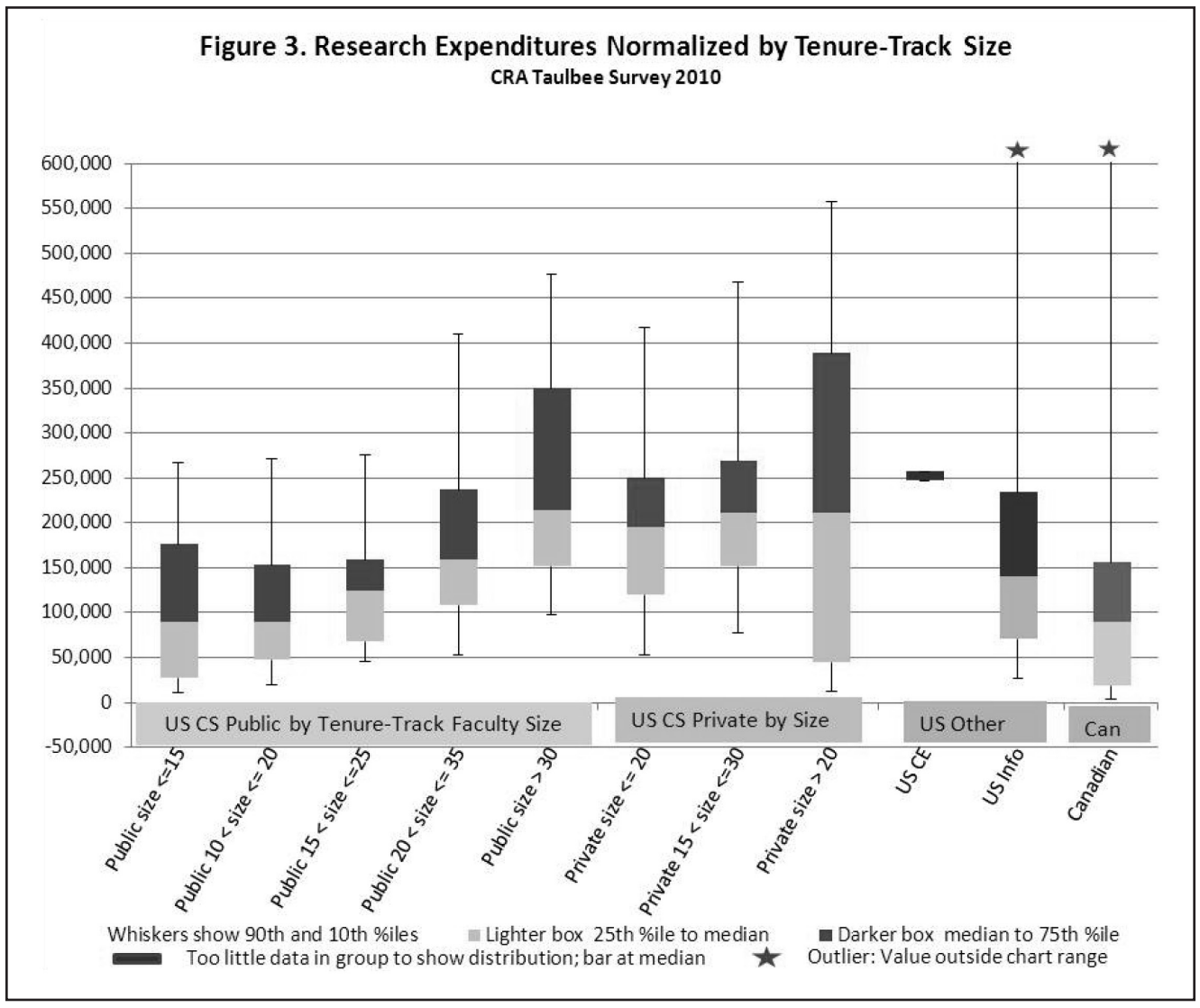
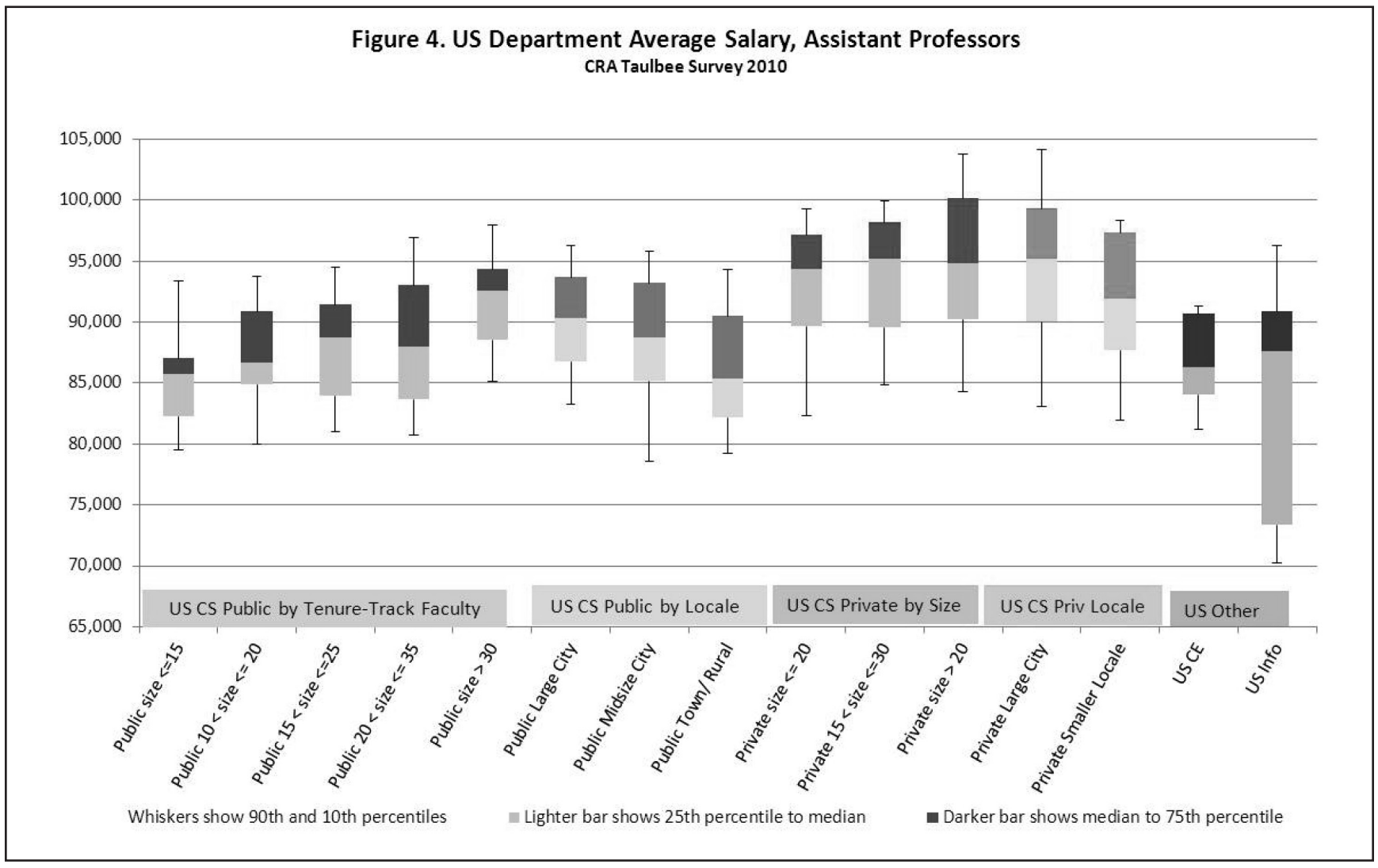




Symposium Marks 20 Years from Page 1

these investments have returned exceptional dividends to the nation; and how we need to constantly replenish the wellspring of new ideas and train new talent.

Jahanian, together with **Jeannette Wing,** President's Professor of Computer Science and head of the computer science department at Carnegie Mellon University, helped set the stage for the day. Wing stepped through "A Day in the Life," providing 20-year contrasts in a typical person's day, from when one wakes up in the morning (20 years ago, we used to brush our teeth the moment we awoke, but today we first check our e-mail) to when one goes to sleep (back then, we used to read books, but today we read and play games on our iPads and Kindles). She remarked how Chrome, Firefox, and Internet Explorer did not exist 20 years ago; Amazon, Facebook, Google, Netflix, Skype, Twitter, and YouTube did not exist; and how even Android, Blackberry, iPod, iPhone, iPad, and Kindle did not exist.

"Imagine your life without them!" Wing said.

The day then featured a collection of extraordinary presentations describing both the progress and promise of the field. The audience—which included a large number of viewers to a live web stream—heard about human language technology; autonomous vehicles; sensing; privacy; security; software; scientific discovery; data-driven approaches to health, to science, and to reasoning; and so on. And it learned that advances in computer science have an extremely broad role. In medicine, for example, that role includes not only electronic health records, but also evidence-based medicine, automated diagnosis, and the complete instrumentation of the body.

In energy and sustainability, that role includes not just high-performance computing as utilized by the Department of Energy's Office of Science, but also sensors in homes for energy management: smart homes and smart offices as the leaf notes of the smart grid, a focus of DoE's Office of Energy Efficiency and Renewable Energy.

And in transportation, the audience took in not just the promise of widespread use of autonomous vehicles in the years ahead, but also how society is already benefiting from capabilities such as adaptive cruise control, anti-lock brakes, and automated stay-in-lane systems that can increase the utilization of existing highways. It heard about continued advances in logistics that allow companies such as Zipcar to increase the utilization of vehicles, better amortizing the economic and environmental costs of their production.

Former Vice President Gore described the discussions that led to the High-Performance Computing Act of 1991; the role of the National Coordination Office and the President's Information Technology Advisory Committee (PITAC) in helping to shape the executive branch agency investments in research and development in the networking and IT sector; and the essential role of the program in driving the nation's competitiveness. And he emphasized the role of technology in democracy and civic discourse. The good news: the Internet has shown its power to facilitate disruptive change around the globe. The bad news: in many nations, including our own, the role of the Internet in lowering the barrier-to-entry to the public square where discourse takes place has just begun. There is a great deal more that must be accomplished.

The symposium concluded with a panel led by Tom Kalil, Deputy Director for Policy for the White House Office of Science and Technology Policy, discussing how to encourage truly ground-breaking research.

Following the symposium, many of the current NITRD agencies participated in an evening reception and showcase event where they presented flyers, posters, and/or small demonstrations highlighting their key accomplishments over the years—including results enabled by agency investment and cross-agency collaboration—as well as opportunities for the future.

Ultimately, the symposium captured the extraordinary achievements of the field and, particularly, the role played by a large number of Federal agencies, working together under the umbrella of the NITRD Program, in ensuring that the U.S. is the world leader in networking and information technology. And it underscored how the potential for the future, and the need to realize this potential, are *even more extraordinary.*

To view the full agenda, watch archived videos of the talks, and see the slideshows from the speakers, check out the symposium website: http://cra.org/ccc/theimpactofnitrd. ▮

Erwin Gianchandani *(erwin@cra.org) is the director of the Computing Community Consortium within the Computing Research Association (CRA). He organized the NITRD Symposium along with* **Andrew Bernat,** *Executive Director, CRA; Vint Cerf, Vice President and Chief Internet Evangelist, Google;* **Susan Graham,** *Pehong Chen Distinguished Professor of Electrical Engineering and Computer Science Emerita, University of California, Berkeley (co-chair);* **Ed Lazowska,** *Bill & Melinda Gates Chair in Computer Science & Engineering, University of Washington (co-chair);* **Paul Messina,** *Director of Science, Argonne National Laboratory; and* **Paul Nielsen,** *Director and CEO, Carnegie Mellon University Software Engineering Institute.*

The Computing Community Consortium, an activity of CRA, serves as a catalyst and enabler for the computing research community by bringing the community together to discuss and encourage revolutionary, high-impact research directions. The CCC is funded through a cooperative agreement between the National Science Foundation and CRA.

CRA Welcomes New Staff Members

Sandra Corbett joined CRA as Manager of Administrative Support in July. A native of Washington, DC, Sandra received her B.A. in Information Systems from Strayer University in 2009. She is currently pursuing a dual Masters Program in Information Technology Database Administration and MBA at the University of Maryland University College where she completed the first Master's program in November 2011. Prior to joining CRA, Sandra worked with DC government as a Program/Budget Analyst. Sandra developed and monitored the Administration's $5.5M annual budget by ensuring dollars were allocated to the appropriate projects and program initiatives designated for the Administration.

Delicia Mapp, Sr. Statistician,

became a staff member in late October. She holds a Bachelor of Science degree in Mathematics from Clark Atlanta University and a Master of Science degree in Statistics from the University of Virginia. Delicia has applied her skill set as a Statistician within multiple arenas including clinical trials, market research and the federal government. For CRA, she is working on evaluation, in particular the Data Buddies project, where she contributes to all aspects of data collection, analysis and reporting.

Erik Russell, Director of Programs,

covers a broad range of programs focusing on human resources, community-building, and connecting CRA with the other organizations advancing computer science and engineering. He supports several CRA committees such as the Committee on the Status of Women in Computing Research (CRA-W), the Coalition to Diversify Computing (CDC), and the CRA Deans Group. Previously Erik worked to advance computer science education as an Albert Einstein Distinguished Educator Fellow within the Directorate for Computer & Information Science & Engineering at the National Science Foundation. As part of NSF's Education and Workforce Program, which included initiatives such as Broadening Participation in Computing and the Computing Education for the 21st Century, Erik actively worked to engage and retain students from underrepresented groups in computer science.

Collaborative Research Experiences for Undergraduates (CREU)

Application Deadline: May 11, 2012

Sponsored by CRA's Committee on the Status of Women in Computing Research (CRA-W) and the Coalition to Diversify Computing (CDC), the CREU program is aimed toward increasing the number of women and underrepresented minorities who go on to CS&E graduate programs.

Students have the opportunity to conduct undergraduate research at their home institution during the academic year and, optionally, the following summer. Formerly administered as two separate programs—CREU and MRO-W—the program includes not only computer science and computer engineering research, but also collaborative, multidisciplinary research creating and using cyber-infrastructure.

Students from an underrepresented group receive either a stipend or a conference travel allowance for their work in the academic year, and a stipend for the optional summer extension. Each team can also request an extra $1,500 to be used for supporting materials and activities.

For more details, go to the CRA-W web site (http://www.cra-w.org/) and select "Collaborative Research Experience for Undergraduates" from the "Undergraduate" menu.

Highlights of the CISE Fiscal Year 2013 Budget Request from Page 1

advanced manufacturing, materials science, cyber-physical systems, and robotics to stimulate new directions in research. CISE's investments include (i) the Cyber-Physical Systems (CPS) program, which aims to deeply integrate computation, communication, and control into physical systems and to engineer complex "smart" cyber-physical systems; and (ii) the National Robotics Initiative (NRI), an interagency program with NASA, NIH, and USDA that intends to develop the next generation of collaborative robots to enhance personal safety, health, and productivity. [CISE will contribute $91 million to CEMMSS, an increase of 82% over the FY 2012 Current Plan.]

Cyberinfrastructure Framework for 21st Century Science and Engineering (CIF21): In partnership with all NSF Directorates and Offices and under OneNSF, the CISE investment in CIF21 is in two broad areas in FY 2013. One is Advanced Computing Infrastructure (ACI), which seeks to fully exploit parallelism and concurrency through innovations in computational models and languages, algorithms, operating and run-time systems, software tools, and advanced hardware. The other area, big data science and engineering, aims to advance the core scientific and technological means of managing, analyzing, visualizing, and extracting useful information from large, diverse, distributed, and heterogeneous data sets in order to accelerate the progress of scientific discovery and innovation. [CISE will contribute $16 million to CIF21, an increase of 33% over the FY 2012 Current Plan.]

Cyber-enabled Sustainability: The CISE investment in the OneNSF Science, Engineering, and Education for Sustainability (SEES) framework for FY 2013 creates a research community engaged in cyber-enabled sustainability to advance research in large-scale and intelligent data management and analysis; wide-spread heterogeneous sensing and control; and optimization, modeling, and simulation of large, complex problems, including energy, computation, and communication trade-offs. [CISE will contribute $11.5 million to SEES, an increase of 44% over the FY 2012 Current Plan.]

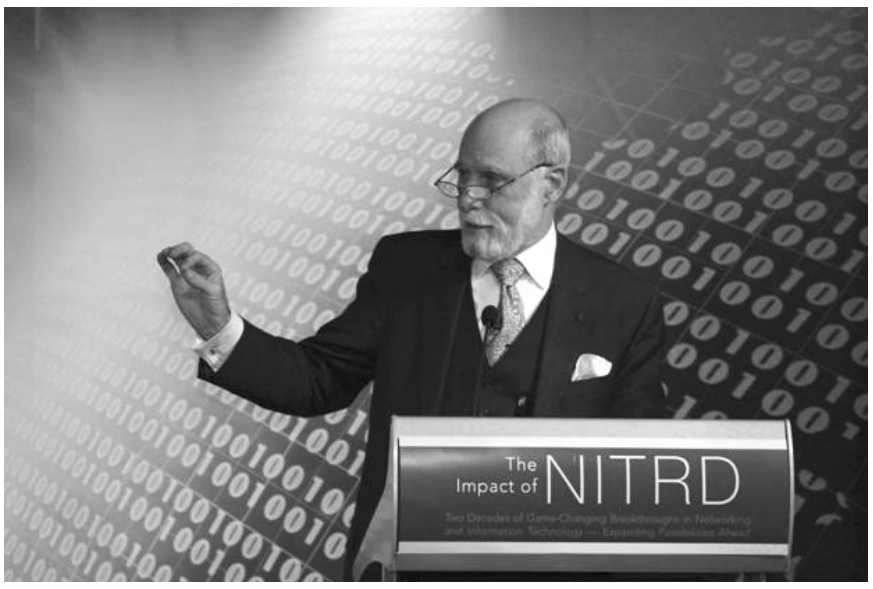
Education and Workforce Development: In the FY 2013 Budget Request, CISE continues its strong commitment to education and workforce development. It is estimated that CISE will support approximately 16,000 people across the spectrum from undergraduate and graduate students to postdoctoral fellows and senior researchers in FY 2013. The Computing Education for the 21st Century (CE21) program, for example, seeks to increase the pool of students and teachers who develop and practice computational competencies in a variety of contexts and to increase the pool of early postsecondary students who have the background necessary to pursue degrees in computing, computation, and data-intensive fields of study. CISE also continues its investment in the CAREER program, which supports the integration of research and education of early-career researchers and contributes to the development of future generations of computer and information scientists and engineers.

CISE's budget request also continues to support a number of crosscutting programs developed over recent years, including Expeditions in Computing, Smart Health and Wellbeing, Cyberlearning: Transforming Education, Collaborative Research in Computational Neuroscience, and Enhancing Access to the Radio Spectrum, as well as its investments in mid-scale computing research infrastructure.

As a field of inquiry, computer and information science and engineering has a rich intellectual agenda. Basic research seeds new programs that keep CISE at the frontiers of knowledge and discovery. I invite you to work with us to ensure that our Nation remains at the forefront of advances in computing science and engineering research and education. ■

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

Participants in the NITRD Symposium included (l to r): **Charles M. Vest,** President of the National Academy of Engineering; **Peter Lee,** Corporate Vice President, Microsoft Research; **Beth Mynatt,** Executive Director, Georgia Tech's Institute for People and Technology; **Tom Kalil,** deputy director for policy for the White House Office of Science and Technology Policy; and **Stefan Savage,** professor of Computer Science and Engineering at the University of California, San Diego.



Vint Cerf, Vice President and Chief Internet Evangelist at Google, was a featured speaker at the recent NITRD Symposium at the Newseum.

Participating in the session "Information Technology and People" at the NITRD Symposium on February 16 were (l to r) **Helen Nissenbaum,** New York University; **Beth Mynatt,** Georgia Tech; and **Kevin Knight,** University of Southern California. **Charles Romine** (NIST), former NCO director, moderated the session.

CALL FOR PARTICIPATION

2012 Grace Hopper Celebration of Women in Computing

October 3 – 6, 2012 – Baltimore, MD

http://gracehopper.org/2012/participate/call-for-participation/

The 12th annual Grace Hopper Celebration of Women in Computing (GHC) has opened its Call for Participation. The annual conference, presented by the Anita Borg Institute for Women and Technology, is the world's largest gathering of women in computing. The Grace Hopper Celebration will take place from October 3 – 6, 2012 at the Baltimore Convention Center in Baltimore, Maryland. This year's theme "Are We There Yet?" recognizes that technology and the culture of technology are continuously evolving but there are also concrete goals we are striving to achieve.

At the Grace Hopper Celebration, leading researchers present their current work while special sessions focus on the role of women in today's technology fields, including computer science, information technology, research and engineering. The technical conference features well known keynote speakers and invited technical speakers, panels, workshops, new investigator technical papers, PhD forums, technical posters, birds of a feather sessions, the ACM Student Research Competition and an Awards Celebration. The attendees who range from students to executives use this global platform to get inspired, stay on top of emerging trends, learn and network.

Program Abstracts: **Due Friday, March 16**
Notifications: **Thursday, May 17**
Registration Opens: **Friday, June 1**
Final Program Content Due: **Monday, June 25**

CRA CONFERENCE AT SNOWBIRD 2012 ♦ JULY 22 – 24

CLIFF LODGE, SNOWBIRD RESORT, UTAH

The invitation-only flagship conference for chairs of Ph.D.-granting departments of CS, CE, and IT, and leaders from U.S. industrial and government computing research laboratories and centers interested in computing research issues.

Preliminary Program

Sunday, July 22

CRA Board of Directors Meeting (begins Saturday 6pm) **8:30AM - 2:45PM**

Conference Registration **NOON - 7:30PM**
(C Level – Top of the Escalator)

Workshop for New Department Chairs **3:00PM - 5:45PM**
Co-Chairs: Mike Gennert (Worcester Polytechnic Institute)
Darrell Whitley (Colorado State University)
Speakers: TBD

This workshop will give new CS Department Chairs some of the skills to lead their organizations and work with Deans, Provosts, and Advisory Boards—the stuff they never told you in graduate school.

Agenda:
- Panels: Nuts & Bolts of Managing a Department
  Dealing with Different Stakeholders
  Strategic Thinking
- Active, engaging, group-based, problem-solving exercises—putting theory into practice
- Group reports & discussion

Whether you've been department chair for one week or one year, there is more to the job than you think. Come join your fellow new chairs in this workshop!

Welcome Reception **6:00PM - 7:00PM**

Dinner **7:00PM - 9:00PM**

Welcome Eric Grimson, MIT (Academic Co-Chair)
Dick Waters, MERL (Labs/Centers Co-Chair)

Speaker: John L. Hennessy (President, Stanford University)
Introduction: Eric Grimson (Chair, CRA Board of Directors)

Title: The Coming Tsunami in Educational Technology

Monday, July 23

Breakfast Buffet **7:00AM - 8:30AM**

Registration **7:30AM - 6:00PM**

Conference Co-Chairs Announcements **8:30AM -10:00AM**

PLENARY SESSION I **8:40AM -10:00AM**

Pillars of Societal Innovation: The Growing Imperative of Research and Education in Computing
Speaker: Dr. Farnham Jahanian (Assistant Director of NSF for CISE)
Introduction: Andrew Bernat (Executive Director, CRA)

Break **10:00AM -10:30AM**

Workshop I (three parallel sessions) **10:30AM - NOON**

A New Future for K-12 CS Education: Why You Should Care
Chair: Bobby Schnabel (Indiana University)
Speakers: Chris Stephenson (CSTA)
Lucy Sanders (NCWIT)
Jan Cuny (NSF)
Cameron Wilson (ACM)

Reflections on a 100,000+ Student Online Classroom
Chair: David Patterson (UC Berkeley)
Speaker: Peter Norvig (Google)

Hot Topic Session - TBD

Luncheon **NOON -1:30PM**

PLENARY SESSION II **1:30PM - 3:00PM**

The Convergence of Social and Technological Networks
Speaker: Jonathan Kleinberg (Cornell University)
Introduction: Eric Grimson (Chair, CRA Board of Directors)

Break **3:00PM - 3:30PM**

Networking Events **3:30PM - 5:00PM**

Dinner **6:30PM - 9:00PM**

Award Presentations:
CRA's Distinguished Service and A. Nico Habermann Awards

Research Futures Panel
Chair: Ed Lazowska, CCC Chair
Panelists: TBD

Tuesday, July 24

Breakfast Buffet **7:00AM - 8:30AM**

PLENARY SESSION III **8:30AM - 10:00AM**

Evolution and Future Directions of Large-Scale Systems at Google
Speaker: Jeffrey Dean (Google, Inc.)
Introduction: Alfred Spector (Google, Inc.)

Break **10:00AM - 10:30AM**

Workshop II (three parallel sessions) **10:30AM - NOON**

Humanitarian Computing
Chair: Ellen Zegura (Georgia Institute of Technology)
Speakers: Michael Best (Georgia Institute of Technology)
Gaetano Borriello (University of Washington)
Colin Maclay (Berkman Institute, Harvard University)
Ralph Morelli (Trinity College)
Leysia Palen (University of Colorado)

Institutional Data: Revised Taulbee Groupings, New Data and Services, Data Buddies, and More
Co-Chairs: Jim Kurose (UMass) and Carla Brodley (Tufts)
Speakers: Tracy Camp (Colorado School of Mines)
Michael Goldweber (Xavier University)
Stu Zweben (Ohio State University, Emeritus)

Industry/University Interactions: Working Out the Kinks
Chair: Ron Brachman (Yahoo! Labs)
Speakers: TBD

Luncheon **NOON - 1:30PM**

Workshop III (three parallel sessions) **1:30PM - 3:00PM**

The Breadth of Interdisciplinary Computing Research
Co-Chairs: Jeff MacKie-Mason (University of Michigan)
Bobby Schnabel (Indiana University)
Speakers: TBD

Publication Models in Computing Research: Is a Change Needed? Are We Ready for a Change?

Chair: Moshe Y. Vardi (Rice University)
Speakers: Carlo Ghezzi (Politecnico di Milano)
Jonathan Grudin (Microsoft Research)
M. Tamer Özsu (University of Waterloo)
Fred B. Schneider (Cornell University)

Computer Science Curriculum 2013 (CS2013): Getting Feedback on CS Curricular Guidelines for the Next Decade
Chair: Mehran Sahami (Stanford)
Speakers: Steve Roach (University of Texas, El Paso)
Dan Grossman (University of Washington)
Rich LeBlanc (Seattle University)
Remzi Seker (University of Arkansas at Little Rock)

Break **3:00PM - 3:30PM**

PLENARY SESSION IV **3:30PM - 5:00PM**

Politics 2012 and What it Might Mean for Computing Research
Chair: Fred Schneider (Cornell University)
Speaker: Peter Harsha (Director of Government Affairs, CRA)

Managing Up—Partnering with your Dean **5:00PM - 6:30PM**
Chair: Randy Bryant (Carnegie Mellon University)
Speakers: TBD

Reception/Dinner **6:30PM - 7:30PM**

CRA Government Affairs Committee Meeting **6:00PM - 9:00PM**

CRA-Deans Meeting **5:00PM - 6:30PM**

Reception/Dinner **6:30PM - 7:30PM**

Meeting Continues **7:30PM - 9:00PM**

Wednesday, July 25 **8:30AM - NOON**

Conference Registration Opens in April
http://www.cra.org/snowbird

CRA Conference at Snowbird 2012 Sponsors • Association for Computing Machinery • CA Labs • Google • IBM Research • IEEE-Computer Society • Microsoft Research • Mitsubishi Electric Research Labs • NSA • USENIX Association

Snowbird Organizing Committee 2012

Co-Chairs: **Eric Grimson** (MIT) Academic Co-Chair; **Dick Waters** (MERL) Labs/Centers Co-Chair

Members: **Annie Antón** (North Carolina State University); **Ron Brachman** (Yahoo! Labs); **Carla Brodley** (Tufts University); **Anne Condon** (University of British Columbia); **Jim Kurose** (University of Massachusetts Amherst); **Peter Lee** (Microsoft Research); **Ran Libeskind-Hadas** (Harvey Mudd College); **Takis Metaxas** (Wellesley College); **Dave Patterson** (UC Berkeley); **Guri Sohi** (University of Wisconsin, Madison); **Alfred Spector** (Google, Inc.); and **Ellen Zegura** (Georgia Institute of Technology).

Expanding the Pipeline from Page 2

update year (excluding doctoral-level degrees that qualify recipients for entry into professional practice, such as the JD, MD, etc.):
  - **Research University-Very High Research Activity [108 institutions]:** institutions that were very high on either aggregate or per-capita indices.
  - **Research University-High Research Activity [99 institutions]:** institutions that were high on at least one index, but very high on neither.
  - **Doctoral/Research Universities [90 institutions]:** remaining institutions and those not represented in the NSF data collection.
- **Master's Colleges and Universities [727 institutions]:** institutions that awarded at least 50 master's degrees during the update year, but fewer than 20 research doctorates (as defined above).
- **Baccalaureate College [808 institutions]:** institutions for which the bachelor's degrees accounted for at least 10 percent of all undergraduate degrees and they awarded fewer than 50 master's degrees in the update year.
- **Special Focus Institutions-Other [850 institutions]:** based on the concentration of degrees in a single field or set of related fields, at both the undergraduate and graduate levels; institutions were determined to have a special focus with concentration of at least 75% of undergraduate and graduate degrees.
- **Tribal Colleges [32 institutions]:** members of the American Indian Higher Education Consortium, as identified in the IPEDS (National Center for Education Statistics Integrated Postsecondary Education Data System) Institutional Characteristic data.

Tables 1 through 3 provide the number of bachelor's degrees awarded to African Americans, American Indians or Alaska Natives, and Hispanics by Carnegie classification for the years 2005, 2007, and 2009. The data indicate that the classification with the largest number of bachelor's degrees awarded to minorities is consistently Master's Colleges and Universities, followed by Baccalaureate Colleges. In most cases, the numbers for the Baccalaureate Colleges are about one-half of those of the Master's Colleges and Universities. Further, in comparison to the Research Universities, the Master's Colleges and Universities award up to a factor of six more bachelor's degrees to minorities.

If we look further at the data, taking into consideration the number of institutions for each categorization, we find the following averages per institution type for 2009 with respect to total number of minorities: Research University-Very High Research Activity has an average of six minority students per institution; Research University-High Research Activity also has an average of six minority students per institution; Doctoral/Research University has an average of eight minority students per institution; Master's Colleges and Universities has average of four minorities per institution; and Baccalaureate Colleges have an average of two minorities per institution.

When looking through the list of institutions, however, the distribution is not uniform. There are a few spikes, with many institutions graduating one or two minorities with a bachelor's degree. ***The institutions with more than 25 minorities are Minority Serving Institutions (MSIs) and for-profit institutions (most in the categories of Master's Colleges and Universities).***

To increase diversity in our doctoral degree programs in computing the data indicate the need to recruit minority students from MSIs and for-profit institutions. In particular, the data raise the following questions for discussion by the computing research community:

- Assuming only a small percentage of bachelor's degree students continue on to get the doctorate degree, can research institutions increase the diversity in their doctoral programs by recruiting only from other research institutions?
- What conditions are necessary for doctoral programs to establish strong pipelines with programs with master's colleges and universities, in particular MSIs and for-profit institutions?
- How can organizations such as the CRA promote an interest in research among students who attend MSIs and for-profit institutions to encourage them to apply successfully to doctoral programs?

We look forward to continued discussion on the topic of increasing diversity in the computing research community. ▮

Table 2: Number of Bachelor's Degrees Awarded to Minorities in 2007 by Carnegie Classification [Data Source: WebCASPAR]

Year: 2007
Carnegie Classification 2010, Basic (survey-specific): All values
Race & Ethnicity (standardized): Black, Non-Hispanic, American Indian or Alaska Native, Hispanic
Academic Discipline, Detailed (standardized): Computer Science
Level of Degree or Other Award: Bachelor's Degrees

Race & Ethnicity (standardized)	Black, Non-Hispanic	American Indian or Alaska Native	Hispanic
Carnegie Classification 2010, Basic (survey-specific)			
Research Universities-Very High Research Activity	301	29	313
Research Universities-High Research Activity	324	19	289
Doctoral/Research Universities	503	21	309
Master's Colleges and Universities	2,290	119	1,251
Baccalaureate Colleges	897	32	600
Associate's Colleges	13	3	12
Special Focus Institutions-Schools of engineering	12	1	6
Special Focus Institutions-Other	243	19	173
Tribal Colleges		2	
Not Classified	5	4	17
Total	4,588	249	2,970

Table 3: Number of Bachelor's Degrees Awarded to Minorities in 2009 by Carnegie Classification [Data Source: WebCASPAR]

Year: 2009
Carnegie Classification 2010, Basic (survey-specific): All values
Race & Ethnicity (standardized): Black, Non-Hispanic, American Indian or Alaska Native, Hispanic
Academic Discipline, Detailed (standardized): Computer Science
Level of Degree or Other Award: Bachelor's Degrees

Race & Ethnicity (standardized)	Black, Non-Hispanic	American Indian or Alaska Native	Hispanic
Carnegie Classification 2010, Basic (survey-specific)			
Research Universities-Very High Research Activity	313	17	329
Research Universities-High Research Activity	302	14	282
Doctoral/Research Universities	414	20	283
Master's Colleges and Universities	1,852	94	1,123
Baccalaureate Colleges	710	32	729
Associate's Colleges	23	6	23
Special Focus Institutions-Schools of engineering	4		4
Special Focus Institutions-Other	249	25	226
Tribal Colleges		5	
Not Classified	1		
Total	3,868	213	2,999

Valerie Taylor *is the Royce E. Wisenbaker Professor in Computer Science and Engineering at Texas A&M University and Executive Director of the Center for Minorities and People with Disabilities in IT.*

Richard E. Ladner *is the Boeing Professor in Computer Science and Engineering at the University of Washington, Principal Investigator for the AccessComputing Alliance, and Deputy Director of the Center for Minorities and People with Disabilities in IT.*

Professional Opportunities

Auburn University
Department of Computer Science and Software Engineering
Assistant/Associate Professor

The Department of Computer Science and Software Engineering (CSSE) invites applications for a tenure-track faculty position at the Assistant/Associate Professor level to begin in Fall 2012. Salary will be commensurate with the candidate's qualifications. Women and minorities are encouraged to apply. Responsibilities include research, graduate student supervision, graduate and undergraduate teaching, and service. For applications at the Associate Professor level, a record of success in securing external funding for research is expected, and potential for successfully obtaining external research funding will be considered at the Assistant Professor level position. Applicants must have a Ph.D. in computer science, software engineering, or a closely related field; however, applicants who are ABD may apply if they reasonably expect to complete the terminal degree prior to August 2012. We encourage candidates from all areas of computer science and software engineering to apply. We are especially interested in candidates specializing in cyber security and software engineering. Excellent communication skills are required. Proposals submitted for federal contracts in Cyber Security require the person in this position be a U.S. citizen.

The CSSE Department currently has 17 full-time tenure-track faculty members and supports strong graduate (M.S., M.Sw.E., Ph.D.) and undergraduate programs in computer science, software engineering, and wireless engineering. CSSE enrollment for Fall 2011 was 462 undergraduate and 130 graduate students. Faculty research areas include software engineering, computer and communication networks, human-computer interaction, pervasive computing, artificial intelligence, database systems, information assurance, simulation, and wireless engineering. CSSE recently moved into the new, $55M Shelby Center for Engineering Technology. Additional information about the Department and faculty research interests can be found at the Department's home page (http://www.eng.auburn.edu/csse).

Auburn University was chartered in 1856 and was designated a land grant institution in 1872. The official Fall 2011 enrollment was 25,469 students. The College of Engineering has an enrollment of 4,018 undergraduates and 834 graduate students in eight departments. In the 2012 edition of the U.S. News and World Report ratings of undergraduate programs, it was ranked 36th among public universities.

Auburn, AL is located 100 miles southwest of Atlanta, GA and 50 miles northeast of Montgomery, Alabama's State Capitol. The picturesque main campus covers 1,875 acres, and includes the entire southwest quadrant of the city of Auburn. The Auburn-Opelika community has a population of about 100,000, an excellent public school system, and has been nationally ranked as one of the "best small towns in America".

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

Dr. Kai H. Chang, Professor and Chair
Computer Science and Software Engineering
Auburn University, AL 36849-5347
changka@auburn.edu (with copy to bjl0002@auburn.edu))
334-844-6300 (Voice)
334-844-6329 (Fax)
http://www.eng.auburn.edu/csse/

The applicant review process will begin January 31, 2012 and continue until a successful candidate has been identified.

Auburn University is an Affirmative Action/Equal Opportunity Employer.

Bucknell University
Department of Computer Science
Visiting Position in Computer Science for One Year Term with the possibility of a Second Year

The Bucknell University Department of Computer Science invites applications for a one- or two-year visiting position in computer science beginning mid-August 2012. Outstanding candidates in all areas will be considered. We are particularly interested in candidates whose areas of expertise are in operating systems or computer architecture, with interest in parallel multicore programming a plus. Candidates should have completed their Ph.D. requirements in computer science or a closely related field by August 15th, 2012, but ABDs will be considered. A strong commitment to teaching excellence is required and the successful candidate must be able to participate in the teaching of required core courses.

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

http://www.bucknell.edu/ComputerScience/

Applications will be considered as received and recruiting will continue until the position is filled. Candidates are asked to submit a cover letter, CV, a statement of teaching philosophy and research interests, and the contact information for three references.

Please submit your application to http://jobs.bucknell.edu/ by searching for the "Computer Science Visiting Faculty Position".

Please direct any questions to Professor Daniel Hyde of the Computer Science Department at hyde@bucknell.edu.

Bucknell University adheres to the principle that students learn best in an inclusive community and is therefore committed to excellence through diversity in its faculty, staff, and students. Thus, we seek candidates with a commitment to creating a climate that will foster the success of students with diverse backgrounds.

Bucknell University encourages applications from members of underrepresented groups.

FX Palo Alto Laboratory, Inc. (FXPAL)
Research Scientists & Software Engineers

FX Palo Alto Laboratory, Inc. (FXPAL) provides multimedia and collaboration technology research for Fuji Xerox Co., Ltd., a joint venture between Xerox Corporation of America and FujiFilm of Japan.

We have immediate openings in the following area:

Sensor Networks

FXPAL is developing awareness tools that enhance communication and collaboration between co-workers. Our research uses a variety of sensors including cameras, wireless location tracking, keyboard monitors, and mobile devices to determine where a person is located and their availability for communication. We are experimenting with new sensors, user-interfaces, and systems architectures to support communication while satisfying personal privacy and security requirements.

We seek people with experience designing and implementing sensor network systems and applications. You can make significant contributions in hardware, software or application of the technology.

Cloud Computing

FXPAL research on complex algorithms and large data sets requires parallel computation and scalable cloud computing systems. We are also developing innovative cloud-based multimedia and document services. We seek candidates with experience in cloud computing systems including hardware infrastructure and software systems who can conduct original research on scalable services and mobile applications.

Candidates for both positions should have a strong publication record and interest in building working prototypes in a collaborative setting. A PhD in Computer Science or related field and strong development skills are required.

Programming

Systems and application programmers needed to develop innovative sensor network and cloud-based systems and applications. Requires various programming languages and middleware such as C++, Java, web applications such as HTML, CSS, JavaScript and DBMS technology experience. Knowledge of mobile platform development and scripting languages are desirable.

Candidates must have a Master's degree in computer science, engineering, or related fields and more than 5 years of experience producing high quality code rapidly. Ideal candidate must enjoy working in a collaborative environment.

For more information about FXPAL, please visit our website at www.fxpal.com.

To apply send resume to fxpalresumes@fxpal.com and reference job code CRN-6.

We are an Equal Opportunity Employer and value diversity in the workplace.

FX Palo Alto Laboratory, Inc. (FXPAL)
Research Scientists

FX Palo Alto Laboratory, Inc. (FXPAL) provides multimedia and collaboration technology research for Fuji Xerox Co., Ltd., a joint venture between Xerox Corporation of America and FujiFilm of Japan.

We have immediate openings for Research Scientists in the following area:

Sensor Networks

FXPAL is developing awareness tools that enhance communication and collaboration between co-workers. Our research uses a variety of sensors including cameras, wireless location tracking, keyboard monitors, and mobile devices to determine where a person is located and their availability for communication. We are experimenting with new sensors, user-interfaces, and systems architectures to support communication while satisfying personal privacy and security requirements.

We seek people with experience designing and implementing sensor network systems and applications. You can make significant contributions in hardware, software or application of the technology.

Cloud Computing

FXPAL research on complex algorithms and large data sets requires parallel computation and scalable cloud computing systems. We are also developing innovative cloud-based multimedia and document services. We seek candidates with experience in cloud computing systems including hardware infrastructure and software systems who can conduct original research on scalable services and mobile applications.

Candidates for both positions should have a strong publication record and interest in building working prototypes in a collaborative setting. A PhD in Computer Science or related field and strong development skills are required.

For more information about FXPAL, please visit our website at www.fxpal.com.

To apply send resume to fxpalresumes@fxpal.com and reference job code CRN-6. We are an Equal Opportunity Employer and value diversity in the workplace.

Georgia State University
Department of Computer Science
Full Professor, Bioinformatics

The Department of Computer Science of Georgia State University invites applications for an anticipated position of Full Professor in the bioinformatics area beginning the Fall semester, 2012, pending budgetary approval. Earned Ph.D. in Computer Science or a related discipline is required. An offer of employment will be conditional on background verification.

Prospective candidates should demonstrate ability to bring national and international recognition to the department as a center of excellence for bioinformatics research and education. The hired scholar is expected to bring in major extramural funding, mentor junior faculty, recruit top quality PhD students, and foster interdisciplinary collaborations amongst faculty in various departments in GSU.

This position is part of the university-wide initiative (www.gsu.edu/secondcentury) that is seeking to hire excellent faculty in several inter-disciplinary areas. Prospective candidates should demonstrate ability to bring national and international recognition to the department. The hired applicants are expected to foster interdisciplinary research collaborations amongst faculty in various departments in GSU.

Georgia State University, founded in 1913, is a Carnegie Doctoral/Research Extensive university. Located in the heart of downtown Atlanta, this major research university has an enrollment of more than 30,000 undergraduate and graduate students in six colleges. Georgia State is the second largest university in the state, with students coming from every county in Georgia, every state in the nation and from over 145 countries. Georgia State University is currently embarking on a record $1 billion campus expansion. The Computer Science Department offers programs leading to the B.S., M.S., and Ph.D. degrees in computer science. Currently, 20 out of more than 60 Ph.D. students are involved in bioinformatics research. They are supervised by 10 faculty members fully or substantially involved in bioinformatics research through collaboration with Computer Science and Biology faculty. Departmental computing facilities for research and instruction include a departmental network of PCs, Unix/Linux workstations, two interconnected Beowulf clusters, and a 24-processor supercomputer. The department's faculty attracts substantial from many federal agencies including five NSF CAREER Awards.

Applicants should send letter of interest, C.V., and three letters of recommendation to:

Dr. Yi Pan, Chair
Department of Computer Science
Georgia State University
34 Peachtree Street, Suite 1450
Atlanta, Georgia, 30303

Applications can also be sent via email to search4bio@cs.gsu.edu and will be accepted until position is filled.

Georgia State University, a Research University of the University System of Georgia, is an AA/EEO employer.

Georgia State University
Department of Computer Science
Assistant, or Associate Professor - Interferometric Imaging

The Department of Computer Science in Collaboration with the Department of Physics and Astronomy at Georgia

Professional Opportunities

State University invites applications for anticipated positions of Assistant, or Associate Professor in - Interferometric Imaging - The CHARA Array, operated by GSU's Center for High Angular Resolution Astronomy (http://www.chara.gsu.edu/CHARA), is a six-telescope optical-near infrared interferometric array currently possessing the world's highest resolution imaging at these wavelengths.

- Astroinformatics/Image Database Development and Mining - The Research Consortium on Nearby Stars, RECONS (http://www.recons.org/), based at GSU, has expertise in utilizing mega-databases such as the SuperCOSMOS Sky Survey. With the advent of explosive growth in mega-database development through forthcoming facilities such as the LSST, this position is intended to put GSU's stellar astrophysics group in a strong position of leadership in investigations of stellar populations as once rare objects are discovered by the thousands, and billions of stars are understood in detail.

Earned Ph.D. in Computer Science or a related discipline is required. An offer of employment for the beginning of fall semester, 2012, pending budgetary approval, will be conditional on background verification.

Prospective candidates should demonstrate ability to bring national and international recognition to the department. The hired applicant is expected to bring in major extramural funding, recruit top quality Ph.D. students, and foster interdisciplinary research collaborations amongst faculty in various departments in GSU.

This position is part of the university-wide initiative (www.gsu.edu/secondcentury) that is seeking to hire excellent faculty in several inter-disciplinary areas. Prospective candidates should demonstrate ability to bring national and international recognition to the department. The hired applicants are expected to foster interdisciplinary research collaborations amongst faculty in various departments in GSU.

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Women and minorities are particularly encouraged to apply. Applicants should send letter of interest, C.V., and three letters of recommendation to:

Dr. Yi Pan, Chair
2CI Astroinformatics
Department of Computer Science
Georgia State University
34 Peachtree Street, Suite 1450
Atlanta, Georgia, 30303

Applications can also be sent via email to search4astro@cs.gsu.edu and will be accepted until position is filled.

Georgia State University, a Research University of the University System of Georgia, is an AA/EEO employer.

Georgia State University
Department of Computer Science
Assistant/Associate Professor in Networks or Bioinformatics

The Department of Computer Science of Georgia State University invites applications for an anticipated position of Assistant/Associate Professor in the networks or bioinformatics areas beginning the Fall semester, 2012, pending budgetary approval. Earned Ph.D. in Computer Science or a related discipline is required. An offer of employment will be conditional on background verification.

Prospective candidates should demonstrate ability to bring national and international recognition to the department. The hired scholar is expected to bring in extramural funding, recruit top quality PhD students, and foster interdisciplinary collaborations amongst faculty in various departments in GSU.

Georgia State University, founded in 1913, is a Carnegie Doctoral/Research Extensive university. Located in the heart of downtown Atlanta, this major research university has an enrollment of more than 30,000 undergraduate and graduate students in six colleges. Georgia State is the second largest university in the state, with students coming from every county in Georgia, every state in the nation and from over 145 countries. Georgia State University is currently embarking on a record $1 billion campus expansion. The Computer Science Department offers programs leading to the B.S., M.S., and Ph.D. degrees in computer science. Currently, 20 out of more than 60 Ph.D. students are involved in bioinformatics research. They are supervised by 10 faculty members fully or substantially involved in bioinformatics research through collaboration with Computer Science and Biology faculty. Departmental computing facilities for research and instruction include a departmental network of PCs, Unix/Linux workstations, two interconnected Beowulf clusters, and a 24-processor supercomputer. The department's faculty attracts substantial funding from many federal agencies including five NSF CAREER Awards.

Women and minorities are especially encouraged to apply. Applicants should send letter of interest, C.V., and three letters of recommendation to:

Dr. Yi Pan, Chair
Department of Computer Science
Georgia State University
34 Peachtree Street, Suite 1450
Atlanta, Georgia, 30303

Applications can also be sent via email to search@cs.gsu.edu and will be accepted until position is filled.

Georgia State University, a Research University of the University System of Georgia, is an AA/EEO employer.

Georgia State University
Department of Computer Science
Assistant/Associate Professor in Content Based Visual Information Retrieval

The Department of Computer Science at Georgia State University invites applications for an anticipated position of Assistant/Associate Professor in content based visual information retrieval. Outstanding applicants in visual analytics, semantic image processing, semantic web data mining, natural language processing and/or multimedia database management are also encouraged to apply. Earned Ph.D. in Computer Science or a related discipline is required. An offer of employment for the beginning of Fall semester, 2012, pending budgetary approval, will be conditional on background verification.

Prospective candidates should demonstrate ability to bring national and international recognition to the department. The hired applicant is expected to bring in major extramural funding, recruit top quality Ph.D. students, and foster interdisciplinary research collaborations amongst faculty in various departments in GSU.

This position is part of the university-wide initiative (www.gsu.edu/secondcentury) that is seeking to hire excellent faculty in several inter-disciplinary areas. Prospective candidates should demonstrate ability to bring national and international recognition to the department. The hired applicants are expected to foster interdisciplinary research collaborations amongst faculty in various departments in GSU.

Georgia State University, founded in 1913, is a Carnegie Doctoral/Research Extensive university. Located in the heart of downtown Atlanta, this major research university has an enrollment of more than 30,000 undergraduate and graduate students in six colleges. Georgia State is the second largest university in the state, with students coming from every county in Georgia, every state in the nation and from over 145 countries. Georgia State University is currently embarking on a record $1 billion campus expansion. The Computer Science Department offers programs leading to the B.S., M.S., and Ph.D. degrees in computer science. Departmental computing facilities for research and instruction include a departmental network of PCs, Unix/Linux workstations, two interconnected Beowulf clusters, and a 24-processor supercomputer. The department's faculty attracts substantial funding from many federal agencies, including five NSF CAREER Awards.

Women and minorities are particularly encouraged to apply. Applicants should send letter of interest, C.V., and three letters of recommendation to:

Dr. Yi Pan, Chair
2CI Communications
Department of Computer Science
Georgia State University
34 Peachtree Street, Suite 1450
Atlanta, Georgia, 30303

Applications can also be sent via email to search4comm@cs.gsu.edu and will be accepted until position is filled.

Georgia State University, a Research University of the University System of Georgia, is an AA/EEO employer.

NEC Laboratories America
Research Staff Member – Mobile Communications and Networking

The Mobile Communications and Networking research department at NEC Laboratories America in Princeton, New Jersey, is seeking a Research Staff Member to conduct research and development in 4G and Beyond 4G wide-area wireless networks. The department consists of researchers focused on PHY/MAC, as well as higher layers of the wireless protocol stack with strong collaboration among them.

The candidate for this position is expected to have hands-on wireless networked systems building research experience at MAC and higher-layers (TCP/IP, HTTP, Applications). The successful candidate is expected to conduct research on new architectural paradigms such as Network Sharing, HetNet and Cloud-based deployments with emphasis on enabling application-aware value-added services within the mobile packet core. Knowledge of 4G architectures (LTE, LTE-Advanced) and protocols is a plus. The candidate must have or soon expect to receive a PhD in EE or CS and have strong research experience and publication record. Candidates must be able to carry out original research, develop innovative technologies, work towards technology transfer to relevant business units within the company and also maintain a track record of high-quality peer-reviewed publications.

For more information about NEC Labs, access http://www.nec-labs.com/. Submit your CV and research statement through our career center at http://www.nec-labs.com/careers/index.php.

EOE/AA

NEC Laboratories America
Research Staff Member — Storage Systems

NEC Laboratories America is seeking researchers who are passionate about solving real world problems to join our Storage Systems Department in Princeton, NJ. The department engages in research in all aspects of storage systems. Ongoing projects include de-duplicated storage, energy efficiency, solid state storage, and storage architectures for mobile and cloud platforms. These projects actively pursue research contributions with publications in leading conferences, as well as technology transfer to NEC's business units.

Applicants must have a Ph.D. in Computer Science or equivalent, and have a strong publication record in one or more of the following topics:

- Storage and file system architecture
- Large-scale distributed systems
- Data-intensive computing (Hadoop/HDFS or similar frameworks)

The candidates must be proactive and assume leadership in proposing and executing innovative research projects, as well as in developing advanced prototypes leading to demonstration in an industry environment. The candidates are expected to initiate and maintain collaborations with outside academic and industrial research communities.

For more information about NEC Labs, access http://www.nec-labs.com/. Submit your CV and research statement through our career center at http://www.nec-labs.com/careers/index.php.

EOE/AA

NEC Laboratories America, Inc.
Research Staff Member —Large-Scale Complex Systems

NEC Laboratories America, Inc., is a vibrant industrial research center, conducting research in support of NEC's U.S. and global businesses. Our research program covers many areas, reflecting the breadth of NEC business, and maintains a balanced mix of fundamental and applied research.

The Autonomic Management group conducts research in the area of large-scale complex systems. We are creating innovative analytics to simplify and automate the management of physical systems (e.g., automobiles, power plants, etc.) as well as large-scale IT systems and services. Our group has many ongoing projects including complex system analytics, cloud computing, data center networking, mobile systems, system instrumentation and debugging. Our researchers have expertise in statistics, modeling, data mining, networking, distributed and operating systems. We strongly believe in publishing our research results, as well as building technologies that can solve real world problems and ultimately support our business' needs. Many of our research results have been transferred into award-winning NEC products.

Currently, the group is seeking research staff members to work in the following areas:

Data Analytics and Mining

The ideal candidate must have expertise in data mining and statistical learning, and is expected to analyze massive amount of monitoring data from complex physical and IT systems to model and analyze their complex behaviors. A PhD in CS/CE is

Professional Opportunities

required with a strong publication record in the following areas:

- data mining and statistical learning
- time series analysis and prediction
- big data analytics and algorithms
- signal processing and information theory

https://neclabs.hua.hrsmart.com/ats/js_job_details.php?reqid=1069

Distributed Systems and Networks

The ideal candidate must have expertise in modeling, analysis and evaluation of distributed systems. A PhD in CS/CE is required with good math skills and a strong publication record in the following areas:

- system modeling and analysis
- performance, reliability, dependability and security
- virtualization and system management
- distributed systems and networks
- data centers and cloud computing

https://neclabs.hua.hrsmart.com/ats/js_job_details.php?reqid=1068

For more information about NEC Labs, access http://www.nec-labs.com/. Submit your CV and research statement through our career center at the links noted with each position.

EOE/AA

NEC Laboratories America, Inc.

Post-Doctoral Fellow / Research Staff Member

The Systems Analysis and Verification (SAV) Group invites applications from highly motivated and qualified researchers to fill a Post-Doc/RSM position in NEC Labs America, Princeton, New Jersey.

The SAV group engages in foundational as well as applied research in analysis of systems, bringing together the domains of system modeling, formal verification, program analysis, automatic decision procedures, and software testing. Our research efforts have been incorporated in internal products within NEC that have been deployed for static verification of software programs. Going forward, we are interested in testing and verification techniques targeting large distributed systems and applications, such as in data centers or cloud operations. Our projects actively pursue research contributions with publications in leading conferences, as well as technology transfer to collaborators in NEC Japan. More details of past projects are available on the group website http://www.nec-labs.com/research/system/systems_SAV-website.

We are currently looking for highly qualified individuals with an interest in robustness and scalability of large distributed systems and applications, and utilizing testing and verification methodologies. Applicants must have a Ph.D. in Computer Science or equivalent, and have a strong publication record in one or more of the above topics. Applicants should have a keen interest in driving innovative technologies into real industry practice.

Requirements:

- Strong technical background in systems design and development
- Solid understanding of operating systems and networks
- Experience in systems programming (Linux/Unix, Windows)
- Bonus skills:
- Experience or familiarity with testing and verification techniques
- Experience with Hadoop, HDFS, or similar platforms

NEC Laboratories America, Inc. conducts research in support of NEC's US and global businesses, with a research program that covers many areas, reflecting the breadth of NEC's business. It supports an extensive summer internship program and promotes successful collaborations with academic institutions. It is a part of NEC's global research infrastructure, which includes laboratories in Japan, the United States, Europe, and China. More information can be found on http://www.nec-labs.com.

Interested candidates can apply at http://www.nec-labs.com/careers/index.php. Along with a current CV, please provide a short statement of research interests and career goals.

EOE/AA

NEC Laboratories America, Inc

Research Staff Member —Large-Scale Complex Systems

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The Autonomic Management group conducts research in the area of large-scale complex systems. We are creating innovative analytics to simplify and automate the management of physical systems (e.g., automobiles, power plants, etc.) as well as large-scale IT systems and services. Our group has many ongoing projects including complex system analytics, cloud computing, data center networking, mobile systems, system instrumentation and debugging. Our researchers have expertise in statistics, modeling, data mining, networking, distributed and operating systems. We strongly believe in publishing our research results, as well as building technologies that can solve real world problems and ultimately support our business' needs. Many of our research results have been transferred into award-winning NEC products.

Currently, the group is seeking research staff members to work in the following three areas:

System and Network Security

Today's large enterprises are under tremendous risk of cyber attacks. We are seeking candidates whose research can help to build practical solutions for this grand challenge. Systems security, network security and software security are all under consideration, except purely cryptography. A PhD in CS/CE is required with a strong publication record in (but not limited to) the following areas:

- Security management and policies
- Intrusion detection/prevention/mitigation
- Network perimeter controls: access control, firewall, application gateways
- Program analysis for detecting vulnerabilities or malware
- OS, virtualization and cloud computing security

https://neclabs.hua.hrsmart.com/ats/js_job_details.php?reqid=1088

Data Analytics and Mining

The ideal candidate must have expertise in data mining and statistical learning, and is expected to analyze massive amount of monitoring data from complex physical and IT systems to model and analyze their complex behaviors. A PhD in CS/CE is required with a strong publication record in the following areas:

- data mining and statistical learning
- time series analysis and prediction
- big data analytics and algorithms
- signal processing and information theory

https://neclabs.hua.hrsmart.com/ats/js_job_details.php?reqid=1069

Distributed Systems and Networks

The ideal candidate must have expertise in modeling, analysis and evaluation of distributed systems. A PhD in CS/CE is required with good math skills and a strong publication record in the following areas:

- system modeling and analysis
- performance, reliability, dependability and security
- virtualization and system management
- distributed systems and networks
- data centers and cloud computing

https://neclabs.hua.hrsmart.com/ats/js_job_details.php?reqid=1068

For more information about NEC Labs, access http://www.nec-labs.com/. Submit your CV and research statement through our career center at the links noted with each position.

EOE/AA

New Jersey Institute of Technology

Tenured/Tenure-Track Faculty Positions

The NJIT College of Computing Sciences invites candidates for assistant/associate/full professor positions starting in August 2012. To apply, go to ccs.njit.edu/hiring.

Address questions to ccs@njit.edu.

- Computer Science Department, Cloud Computing and Big Data. The candidate must have a PhD in computer science or related field, with a background in high performance computing, large scale storage, cyber security, pattern recognition, natural language processing, web analytics, or information mining and with experience building software for large-scale computer systems. Posting Number 0600800.
- Information Systems Department, Business Applications of Big Data and Cloud Computing. The candidate should have recently completed a PhD in business, computing or a related analytical field; related work experience is desirable. The candidate should have a relevant research background, strong analytical skills, programming expertise and innovative approaches to the application of cloud computing and big data analytics to business. Posting Number 0600795.
- Computer Science Department, Electronic Medical Records and their applications. The candidate's research should focus producing software that is rooted in theory and processes "big data." The candidate must be grounded in both relevant fields – Medical Informatics and Medicine. An MD/PhD in Medical Informatics or an MD with an internship (post doc) in Healthcare Informatics is preferred, but related degree profiles will be considered. Posting Number 0600802.
- Computer Science Department, Sensor Technology. The candidate must have a PhD in computer science or a related field. An applicant should be in the field of sensor technology, systems and applications and should have experience in prototyping and building sensor systems. Posting Number 0600801.
- Information Systems Department, Application of Information Systems to Healthcare. The candidate must have recently completed a PhD in computing or informatics with a focus on healthcare; related work experience is a plus. The candidate should have a relevant research background, strong analytical skills, programming expertise and innovative approaches to using computing and business information systems to improve healthcare. Posting Number 0600803.

NJIT is a nationally ranked research university in the greater New York City area, with strong industry ties and an orientation toward interdisciplinary research. NJIT is dedicated to recruiting and retaining women and underrepresented minority candidates to help the university achieve its mission of education, research, economic development, and service.

New Jersey Institute of Technology is an affirmative action/equal opportunity employer.

New Mexico Tech

Computer Science and Engineering

Assistant/Associate Professor

NMT seeks applicants for an Assistant/Associate tenure-track position in its Computer Science and Engineering department and Information Technology program. The department leads the Center of Academic Excellence in Information Assurance Education and Research certification and seeks candidates with demonstrated potential for excellence in research and education.

See full details at:

http://www.nmt.edu/images/stories/hr/pdfs/asstassocprofcompscience111-110.pdf.

New York University/Courant Institute of Mathematical Sciences

Department of Computer Science

Clinical Assistant/Associate Professor

The Computer Science Department at New York University has an opening for a Clinical Assistant or Associate Professor position to start September 1, 2012, subject to budgetary and administrative approval. This is a full-time non-tenured, non-tenure-track three-year contract faculty position which is potentially renewable. Duties are to teach three courses during each of the fall and spring semesters in the department's Master of Science programs and additionally to participate in curricular development, program administration, and supervision of M.S.-level projects. Applicants should have a Ph.D. in Computer Science or a related field and should have first-hand knowledge of the information technology industry. Teaching experience at the graduate level is essential.

To apply, please arrange for a CV and for three letters of recommendation to be sent by email to jobs@cs.nyu.edu. To guarantee full consideration, complete applications should be received by March 31, 2012.

However, all candidates will be considered to the extent feasible until the position is filled.

NYU is an Equal Opportunity/Affirmative Action Employer.

Northeastern University

College of Social Sciences and Humanities

Assistant/Associate/Full Professor in Digital Humanities

The College of Social Sciences and Humanities at Northeastern University invites applications and nominations for an open rank position (assistant/associate/full professor) in the field of Digital Humanities to begin fall 2012. The successful candidate will have expertise in new computational approaches that help distill meaning from texts and artifacts, and in new modes of presenting these in electronic formats. Examples include but are not limited to text-mining, geographic information systems, natural language processing, visualization, or complex network analysis. He or she will be familiar with the theoretical challenges implicit in this emerging field, will have an interest in translating knowledge within and between disciplines and for a broader public, and will help to build new expertise in Digital Humanities at Northeastern. The position will complement existing University strengths in the related areas of network science and computational social science. Applications are invited from any discipline that contributes to the Digital Humanities. The appointment will be

Professional Opportunities

made in an appropriate department in the College of Social Sciences and Humanities and a cross-departmental or cross-college appointment (such as with the College of Computer and Information Science) is also possible. Candidates must have a PhD at the beginning of the appointment and a record of scholarship and teaching commensurate with rank.

Northeastern University in Boston is a nationally-ranked research university with a strong urban mission, a global perspective, and an emphasis on interdisciplinary scholarship. Its signature Cooperative Education Program and study-abroad opportunities such as Dialogues of Civilization provide experiential learning opportunities for its 19,000 undergraduate and graduate students. The newly founded College of Social Sciences and Humanities incorporates the departments of African-American Studies; Economics; English; History; Languages, Literatures and Cultures; Philosophy and Religion; Political Science; and Sociology and Anthropology. The College is home to the School of Criminology and Criminal Justice and the School of Public Policy and Urban Affairs. Its eight interdisciplinary programs include International Affairs; Law and Public Policy; East Asian Studies; Women, Gender and Sexuality Studies; and Jewish Studies.

Applications will only be accepted through the College of Social Sciences and Humanities website. To apply, please go to http://www.northeastern.edu/cssh/, and click on the Faculty Positions link. Applicants already holding tenure should upload a letter of application, CV, a statement of current and future research interests, a writing sample of no more than 50 pages, and the names of three referees. Untenured applicants should upload a letter of application, CV, a statement of current and future research interests, a writing sample of no more than fifty pages, and should have three references submitted via the Faculty Positions site. Review of applications will begin October 20, 2011 and will continue until the position is filled. Questions about the position may be directed to the Chair of the Search Committee, David Lazer, or to Co-Chair, Elizabeth Maddock Dillon at dighumsearch@neu.edu.

Northeastern University is an Equal Opportunity, Affirmative Action Educational Institution and Employer, Title IX University. Northeastern University particularly welcomes applications from minorities, women, and persons with disabilities.

Polytechnic Institute of NYU
Computer Science and Engineering Department
Tenure-Track Position

The Computer Science and Engineering Department of the Polytechnic Institute of NYU invites applications for a tenure-track position in game engineering. Though we anticipate hiring at the assistant professor level, we are open to considering more experienced candidates, and rank of initial appointment will be commensurate with experience and accomplishments. The ideal candidate will have demonstrated research strength in a core CS area integral to game engineering such as (but not limited to) AI, graphics, or networking, and will be able to teach core game engineering courses such as game engine programming.

Polytechnic has a newly-created state-of-the-art interdisciplinary research and teaching facility focused on game engineering, with several active funded research projects and an ongoing seminar series (http://gil.cite.poly.edu). The department is looking to grow both graduate and undergraduate curriculum in game engineering, working from an existing undergraduate concentration. The ideal candidate for this position would become a key driver in the game engineering research program as well as help to shape the growing curriculum.

Polytechnic Institute of NYU was formerly Brooklyn Polytech and has recently merged with NYU. The successful candidate will have excellent opportunities to initiate interdisciplinary research and educational collaborations with the diverse institutes and departments within NYU. Games are already a strong research and curricular focus at NYU, with initiatives such as the Game Center (http://gamecenter.nyu.edu/) and the Games for Learning Institute (http://g4li.org/). Polytechnic faculty members have built strong connections to these efforts, and collaboration between the participating schools and NYU-Poly is expected to grow.

The Computer Science and Engineering Department (CSE) of Polytechnic Institute of NYU has a strong faculty with a vibrant research program and strong course offerings, with strengths including data analysis and visualization, security, networks and distributed systems, algorithms, and theory. We are located in Downtown Brooklyn and a 5-minute subway ride from Lower Manhattan.

Review of applications will begin in January 2012 and will continue until the position is filled. Applicants should send their curriculum vitae, statement of research and teaching interests, and the names and addresses of three references, as a PDF attachment, to cssearch@poly.edu.

Polytechnic is an Equal Opportunity Employer.

Queens College of the City University of New York
Department of Computer Science
Tenure Track Assistant Professor

The Department of Computer Science at Queens College of CUNY is accepting applications for a tenure-track position in modeling and simulation at the Assistant Professor level starting Fall 2012.

Consult http://www.cs.qc.cuny.edu for further information.

Queens College of the City University of New York
Department of Computer Science
Visiting Assistant/Associate/Full Professor

The Department of Computer Science at Queens College of CUNY is accepting applications for a research-focused visiting faculty position for the 2012-2013 academic year in machine translation, speech recognition, or other areas of natural language processing or machine learning.

Consult http://www.cs.qc.cuny.edu for further information.

RSA Laboratories
Full-time Research Scientist Position

RSA Laboratories invites applications for a full-time staff position with a focus on: (1) machine learning / data mining for security applications and (2) computer systems security. Both well established scientists with strong research records and graduating PhDs of exceptional caliber are encouraged to apply.

Staff scientists will have an opportunity to blend academic research with leadership in architecting next-generation security systems together with RSA Engineering. Applicants should possess enthusiasm for both cutting-edge research and real-world deployment; also valuable are either implementation skills or a desire to work with development staff to create prototypes.

A Ph.D. in Computer Science or a closely related field is required, as is residence in or relocation to the Boston, MA area.

To apply, please send a resume to:

labs_hiring@rsa.com<mailto:labs_hiring@rsa.com

The review of applications will begin on February 20th, 2012 and continue until the position is filled.

RSA is the security division of EMC, the world leader in information infrastructure solutions. RSA Laboratories' charter is to produce research with practical impact on the products and strategy of RSA and its parent company EMC and scholarly influence in the larger research community.

Santa Clara University
Department of Computer Engineering
Tenure-Track Assistant Professor

The Department of Computer Engineering at Santa Clara University invites applications for a tenure-track Assistant Professor opening. The Department has particular interest in applicants focused on the areas of Web Science/Usability/Infrastructure, Cloud Computing, or Information Assurance, but strong candidates will be considered in all computing areas.

Applicants must have a strong commitment and ability to teach at both the undergraduate and graduate levels and must have demonstrated a strong potential for research in computer science or engineering. An earned doctorate in Computer Science, Computer Engineering, or in a closely related field is required.

Santa Clara University (https://www.scu.edu) is a Jesuit, Catholic university, located in the heart of Silicon Valley. The School of Engineering is committed to improving the human condition through engineering education, practice, and scholarship, promoting the University's mission to 'fashion a more humane, just and sustainable world'.

SCU maintains small class sizes and promotes close faculty/student interaction. The University enrollment is approximately 5,000 undergraduate and 3,700 graduate students. The Department (http://www.scu.edu/engineering/cse/) offers B.S., M.S. and Ph.D. degrees, with 10 full-time faculty, and a strong pool of around 25 part-time adjunct faculty who instruct approximately 160 undergraduate majors, and about 250 part-time and full-time graduate students. The School of Engineering maintains strong ties to local industry.

The proposed start date is September 1, 2012.

Applicants should submit detailed CVs, statements of research interests, statements of teaching interests, and names and contact information for three references.

Electronic submission of applications is preferred, with PDF-formatted documents mailed to:

CoenSearch@scu.edu

Applications will also be accepted through the mail at:

Search Committee Chair
Department of Computer Engineering
Santa Clara University
500 El Camino Real
Santa Clara, CA 95053

Review of applications will begin on February 1, 2012 and the search will remain open until the position is filled.

EEO / AA Policy:

Santa Clara University is an equal opportunity/Affirmative Action employer and welcomes applications from women, persons of color and members of other historically underrepresented U.S. ethnic groups.

The University welcomes and honors people of all races, genders, creeds, cultures, and sexual orientations and values intellectual curiosity, pursuit of knowledge, and academic freedom and integrity. The University will provide reasonable accommodations to individuals with a disability.

Texas A&M University
Department of Computer Science and Engineering
Multiple Tenured or Tenure-Track Positions

The Department of Computer Science and Engineering of the Dwight Look College of Engineering at Texas A&M University invites applications for multiple tenured or tenure-track positions, starting fall 2012.

The Dwight Look College of Engineering is one of the largest engineering programs in the country with both its graduate and undergraduate programs ranking in the top ten amongst public institutions. The Department of Computer Science and Engineering has 36 tenured, tenure-track faculty and 3 senior lecturers. The department currently has one National Academy of Engineering member, seven IEEE Fellows, one ACM Fellow, and over 40% of the faculty are holders of the PYI/NYI/CAREER awards. Additional information about the department can be found at www.cse.tamu.edu.

Senior Faculty Position in Computational Science

In recognition of the increasing importance of computational sciences, the University has identified this as an area targeted for growth. As part of an expansion in this area, the Department of Computer Science and Engineering (http://www.cse.tamu.edu) is recruiting for a senior faculty position in computational science as broadly defined. This position will have freedom to define a research agenda both by making use of the considerable available startup and by leveraging the significant existing resources at the Institute for Applied Mathematics and Computational Science (http://iamcs.tamu.edu).

Senior Faculty Position in Software and Systems

The department is inviting applications from outstanding candidates in the areas of software and systems. The position is at the full professor level, but exceptional candidates at the associate or assistant professor level will also be considered.

Candidates for both positions must have a Ph.D. in computer science, computer engineering, or related field and will be expected to teach, perform research, and supervise graduate students. Applicants should apply online at

http://apply2.cse.tamu.edu/search

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

* Applications are welcome from dual career couples.

Texas A&M University is an Affirmative Action/Equal Opportunity Employer. The university is dedicated to the goal of building a culturally diverse and pluralistic faculty and staff committed to teaching and working in a multicultural environment, and strongly encourages applications from women, minorities, individuals with disabilities, and covered veterans. Employer paid advertisement.

Texas A&M University – Corpus Christi
School of Engineering and Computing Sciences – Computer Science Program
Assistant/Associate Professor of Computer Science

Texas A&M University-Corpus Christi is a learning centered institution. TAMUCC (The Island University) is located on its own island surrounded by the water of Corpus Christi and Oso bays. The beautiful natural setting is enhanced by our modern, attractive, and state-of-the-art classroom buildings and support

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facilities, and our colorful landscaping, and plazas that lend a distinctive tropical feel to the campus. Our Hispanic Serving Institution status provides a foundation to attain significant impacts for improving the educational attainment of our regional students, and our strategic location on the Gulf of Mexico and on the cultural border with Latin America places the Island University in perfect position to help realize its national and international prominence goals.

TAMUCC invites applications for the following position, an Assistant/Associate Professor of Geospatial Computer Science, for Fall 2012.

The College of Science and Engineering announces the newly created School of Engineering & Computing Sciences (ENCS) which prepares students to pursue productive careers and advanced degrees in engineering, computer science, or geographic information sciences.

The School of Engineering & Computing Sciences is seeking a Assistant/Associate Professor of Geospatial Computer Science. The following are the minimum qualifications for the position: An earned Ph.D. in Computer Science or a closely related field, record of original research, with significant publications in archival journals commensurate with the candidate's level, demonstrated excellence or potential in teaching at the undergraduate and graduate levels, and in supervising graduate and undergraduate student researchers, ability to communicate effectively with an ethnically and culturally diverse campus community, and interest in supporting a Ph.D. program being established in Geospatial Computer Science.

For Associate Professor, an established record of external funding that supports the candidate's graduate and research program is also required.

Preferred qualifications: Experience with commercial geospatial computing systems and a background in research laboratories, corporations or government/non-profit sectors.

Job duties: Teach at undergraduate and graduate levels, establish and direct an active and externally funded research program, advise and mentor Geospatial Computer Science graduate students, assist with recruiting graduate students, and represent the program in national and international geospatial computing functions.

SALARY RANGE: Commensurate with background and experience. Information about the school is available at http://encs.tamucc.edu/.

Apply online at https://islanderjobs.tamucc.edu/, submit a letter of application addressing qualifications and stating research interests; current curriculum vitae including an email address; three letters of recommendation; and a copy of the transcript from the institution awarding the highest degree.

Employment is contingent upon proof of the legal right to work in the United States. An appointment is not final until proof is provided to the University.

Position open until filled (or recruitment canceled). Review of applications to begin as soon as possible.

Texas A&M Corpus Christi is an Equal Opportunity/Affirmative Action Employer committed to diversity.

The University of Edinburgh
School of Informatics
Networks and Systems Faculty Positions

Please apply here:

http://wcms.inf.ed.ac.uk/icsa/news/2-tenure-track-faculty-positions-assistant-professor

University of Maryland, Baltimore County
Computer Science and Electrical Engineering
Computer Science Professor of Practice

UMBC invites applications for a non-tenure track position in Computer Science at the rank of Professor of the Practice to begin in August 2012. All Computer Science areas will be considered but we are especially interested in security related areas. Applicants should have a Ph.D. in Computer Science or a related field or equivalent stature by virtue of experience. Ideal candidates will have a history of research, publication, professional outreach, university teaching, and industry experience. Duties will include teaching at the graduate and undergraduate levels and helping to further develop departmental programs in Cyber Security.

For best consideration, apply by March 15, 2012. Reviews of applications will begin immediately and applications will be accepted until the position is filled.

For more information and to apply, see http://csee.umbc.edu/about/jobs/.

UMBC is an AA/EOE.

The University of Michigan – Dearborn
Department of Computer and Information Science
Assistant/Associate Professor

The Department of Computer and Information Science (CIS) at the University of Michigan-Dearborn invites applications for a tenure-track faculty position in software engineering. Rank and salary will be commensurate with qualifications and experience. We offer competitive salaries and start-up packages.

Qualified candidates must have, or expect to have, a Ph.D. in computer science or a closely related discipline by the time of appointment and will be expected to do scholarly and sponsored research, as well as teaching at both the undergraduate and graduate levels. Candidates at the associate professor rank should already have an established funded research program. The CIS Department offers several BS and MS degrees, and participates in several interdisciplinary degree programs, including an MS program in software engineering and a Ph.D. program in information systems engineering. The current research areas in the department include computer graphics and geometric modeling, database systems, multimedia systems and gaming, networking, computer and network security, and software engineering. These areas of research are supported by several established labs and many of these areas are currently funded.

The University of Michigan-Dearborn is located in the southeastern Michigan area and offers excellent opportunities for faculty collaboration with many industries. We are one of three campuses forming the University of Michigan system and are a comprehensive university with over 8900 students. One of the university's strategic visions is to advance the future of manufacturing in a global environment.

The University of Michigan-Dearborn is dedicated to the goal of building a culturally-diverse and pluralistic faculty committed to teaching and working in a multicultural environment, and strongly encourages applications from minorities and women.

A cover letter, curriculum vitae including e-mail address, teaching statement, research statement, and three letters of reference should be sent to,

Dr. William Grosky, Chair
Department of Computer and Information Science
University of Michigan-Dearborn
4901 Evergreen Road
Dearborn, MI 48128-1491

Email: wgrosky@umich.edu,

Internet: http://www.cis.umd.umich.edu

Phone: 313.583.6424, Fax: 313.593.4256

The University of Michigan-Dearborn is an equal opportunity/affirmative action employer.

University of Nevada, Las Vegas
Computer Science
Tenure-track Assistant/Associate Professor

The Department of Computer Science at the University of Nevada, Las Vegas invites applications for tenure-track Assistant/Associate Professor in the areas of Cybersecurity/Network Security commencing Fall 2012. Emphasis on Cybersecurity, including mobile, cloud, network and grid security, encryption, or digital forensics.

For a complete position description and application details, please visit http://jobs.unlv.edu or call 702-895-2894.

EEO/AA Employer

University of North Texas
Knowledge Discovery from Digital Information Research Cluster Associate/Full Professor

The University of North Texas (UNT) invites applications for a tenured Associate or Full Professor position in Information Visualization. UNT is one of seven universities designated by the state as an Emerging Research University. This hire will be an integral part of UNT's new interdisciplinary research cluster, Knowledge Discovery from Digital Information (KDDI, http://kddi.unt.edu). The position requires an earned doctorate in Computer Science, Information Science, or a closely related field; an established international reputation with a record of significant and sustained research and scholarly output; a record of mentoring graduate students; and a successful record of securing research funding. A record of interdisciplinary activities is desired.

All applicants must apply online to: https://facultyjobs.unt.edu. Search for id 6000600 to locate the specific position. Submit nominations and questions regarding the positions to Rada Mihalcea (rada at cs.unt.edu) and William Moen (william.moen at unt.edu), search committee co-chairs.

The University of North Texas is an AA/ADA/EOE committed to diversity in its educational programs.

University of North Texas
Knowledge Discovery from Digital Information Research Cluster
Assistant Professor

The University of North Texas (UNT) invites applications for a tenure-track Assistant Professor position in Machine Learning. UNT is one of seven universities designated by the state as an Emerging Research University. This hire will be an integral part of UNT's new interdisciplinary research cluster, Knowledge Discovery from Digital Information (KDDI, http://kddi.unt.edu). The position requires an earned doctorate (by time of appointment) in Computer Science, Information Science, or a closely related field. The person to be hired must have a record of research and scholarly output. Preference will be given to candidates who have a successful record of research funding, and a record of interdisciplinary activities.

All applicants must apply online to: https://facultyjobs.unt.edu. Search for id 6000601 to locate the specific position. Submit nominations and questions regarding the positions to Rada Mihalcea (rada at cs.unt.edu) and William Moen (william.moen at unt.edu), search committee co-chairs.

The University of North Texas is an AA/ADA/EOE committed to diversity in its educational programs.

University of Southern California
Computer Science Department
Faculty – Robotics and Related Fields – Associate or Full Faculty – Cybersecurity and Related Fields

The Computer Science Department of the USC Viterbi School of Engineering seeks to hire two tenure-track faculty members this year. While we are interested in exceptional candidates in all areas of computer science, our priorities are as follows:

- One junior faculty position in robotics and related fields, with priority given to candidates who act as a bridge between robotics and related fields such as graphics, animation, perception, machine learning, games, optimization/planning, and natural language processing.
- One senior (associate or full) faculty position in cybersecurity and related fields, with special emphasis on a broad engagement in all areas that affect security, including risk assessment, privacy, social and ethical concerns and covering emerging application areas such as cyberphysical and cybersocial systems.

Applicants should submit their applications online at:

http://viterbi.usc.edu/facultyapplications/csfaculty2012/.

Applications must include a letter indicating the area of specialization, a detailed curriculum vitae, a statement on current and future research directions, and names of at least three professional references. Evaluation of all dossiers will start in early December 2011, but later applications will also be considered.

We are also interested in exceptionally accomplished candidates who can be transformational faculty members both in computer science and interdisciplinary computing. Such candidates should contact the Department Chair, at cschair@usc.edu. Outstanding senior applicants who have demonstrated academic excellence and leadership, and whose past activities document a commitment to issues involving the advancement of women in science and engineering may be also considered for the Lloyd Armstrong, Jr. Endowed Chair, which is supported by the Women in Science and Engineering Program endowment.

We expect all candidates to have a strong commitment both to research and to teaching. All applicants must have earned a doctorate in computer science or a closely related field by the date of appointment.

The USC Viterbi School of Engineering is among the top tier engineering schools in the world. It counts 170 full-time, tenure-track faculty members, and it is home to the Information Sciences Institute, two National Science Foundation Engineering Research Centers, a Department of Energy EFRC (Energy Frontiers Research Center), and the Department of Homeland Security's first University Center of Excellence, CREATE. The school is affiliated with the Alfred E. Mann Institute for Biomedical Engineering, the Institute for Creative Technologies, the USC Stevens Institute for Innovation and the USC Energy Institute. Research expenditures typically exceed $160 million annually.

The University of Southern California (USC), founded in 1880, is located in the heart of downtown LA and is the largest private employer in the City of Los Angeles.

USC values diversity and is committed to equal opportunity in employment. Women and men, and members of all

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racial and ethnic groups, are encouraged to apply.

University of Texas at Dallas

Faculty Positions in Computer Science & Cybersecurity

The Department of Computer Science of the University of Texas at Dallas invites applications from outstanding applicants for tenure track positions in computer science. The Department is conducting two searches: one in all areas of Computer Science (multiple positions) and the second in the area of cybersecurity (multiple positions). Openings are at all ranks, including chaired professorships.

The Department offers BS, MS, and PhD degrees in Computer Science, Software Engineering, Telecom Engineering and Computer Engineering. Currently the Department has 43 tenure-track faculty members and 12 senior lecturers. The department is housed in a spacious 150,000 square feet facility and has excellent computing equipment and support. The department houses a number of centers, particularly, in areas of cybersecurity, human language technology, and embedded software.

Cybersecurity is an active area of research in the Department with projects on Data and Applications Security and Privacy, Language-based Security, Systems Security and Network Security. The cybersecurity team has obtained substantial funding from Federal, State and Industry including AFOSR, NSF, IARPA, NASA, NGA, NIH, DARPA, ONR, DHS and EPA. UTD is an NSA center of excellence in both cybersecurity education and research and is a recipient of a major "Scholarship for Service" award from NSF.

The University is located in the most attractive suburbs of the Dallas metropolitan area. There are over 800 high-tech companies within few miles of the campus. Opportunities for joint university-industry research projects are excellent. The Department faculty are research-active in all areas of computing and have received more than $20 Million in new research funding in the last 18 months from Federal, State and Industry sources.

The Erik Jonsson School of Engineering and Computer Science, where the CS Department is housed, has experienced very rapid growth in recent years. The University and the State of Texas are investing significant resources to move towards a Tier 1 status.

For more information, contact Gopal Gupta, Department Head, via email at gupta@utdallas.edu, or send e-mail to cs-search@utdallas.edu, or view the Internet Web page at http://cs.utdallas.edu.

Review of applicants will begin immediately and will continue until the positions are filled. Indication of gender and ethnicity for affirmative action statistical purposes is requested as part of the application.

The University of Texas at Dallas is an Equal Opportunity / Affirmative Action Employer.

For more information on both positions and to apply online, please visit http://cs.utdallas.edu

University of Waterloo

David R. Cheriton School of Computer Science

Lecturer Position

The David R. Cheriton School of Computer Science at the University of Waterloo invites applications for a two-year definite-term appointment at the rank of Lecturer. A master's degree in computer science or a related discipline is required, and a doctorate is preferred; candidates are also expected to have some teaching experience. The preferred start date for this appointment is September 1, 2012. Applications will be considered until the position is filled.

This position will normally have a teaching load of six one-term courses per year and some administrative and scholarly duties as determined by the Director of the School. There is no provision for reappointment. With over 70 faculty members, the University of Waterloo's David R. Cheriton School of

Computer Science is the largest in Canada. It enjoys an excellent reputation in pure and applied research and houses a diverse research program of international stature. Because of its recognized capabilities, the School attracts exceptionally well-qualified students at both undergraduate and graduate levels. In addition, the University has an enlightened intellectual property policy which vests rights in the inventor: this policy has encouraged the creation of many spin-off companies including iAnywhere Solutions Inc., Maplesoft Inc., Open Text Corp., and Research in Motion.

Please see our web site for more information:

http://www.cs.uwaterloo.ca.

To submit an application, please register at the submission site:

http://www.cs.uwaterloo.ca/faculty-recruiting. Once registered, instructions will be provided regarding how to submit your application. Applications will be considered as soon as possible after they are complete and as long as the position is available. Full consideration is assured for those received by February 29, 2012. Salary will be competitive and commensurate with experience.

The University of Waterloo encourages applications from all qualified individuals, including women, members of visible minorities, native peoples, and persons with disabilities. All qualified candidates are encouraged to apply; however, Canadian citizens and permanent residents will be given priority.

Wayne State University

Computer Science Department, College of Engineering

Department Chair, Computer Science

Applications are invited from well-qualified candidates for the position of Chair of the Department of Computer Science at Wayne State University. The department has 23 tenure-track faculty members, with research strengths in artificial intelligence, bioinformatics, graphics and visualization, software engineering, and systems. The department is also highly interdisciplinary with active collaborations with faculty in medicine, engineering, and science. Research productivity has continually increased over the last five years including five recent NSF Career awardees and total external funding exceeding $2.5M annually. The department currently has over 70 Ph.D. students, most of whom are awarded support, along with 60 Master's students, and 230 undergraduate majors. Further information about the department can be found at www.cs.wayne.edu.

Computer Science recently became part of the College of Engineering which has annual research expenditures of over $20M. Wayne State University is a Carnegie Research Extensive University offering more than 350 academic programs through 13 schools and colleges, to more than 32,000 students. With approximately $260M annual research expenditures and more than 11,000 graduate students, Wayne State University, in partnership with the University of Michigan and Michigan State University has a key role in Michigan's University Research Corridor initiative (urcmich.org) and is closely involved with TechTown, the area's business incubator. Information about the College of Engineering can be found at engineering.wayne.edu.

The department is seeking applicants with an outstanding track record in scholarship and research funding along with proven leadership skills and administrative abilities. Candidates for this position are expected to have an earned doctorate and experience sufficient to merit appointment with tenure at the rank of Full Professor. The Chair will work with the faculty for continued growth of the Department toward excellence in research, teaching, and outreach. Qualified persons should submit a cover letter, statement of research and teaching, and curriculum vitae with the contact information of four references. Review of applications will begin January 6, 2012 and will continue until the position is filled.

Apply online at jobs.wayne.edu for posting #038213. Nominations and inquiries should be directed to the Chair of Search Committee, Steve Salley, at ssalley@wayne.edu.

Wayne State University

Computer Science Department

Assistant/Associate Professor – Faculty Position

Applications are invited for a tenure-track faculty position specialized in the area of clinical/health informatics at the assistant or associate professor level beginning in Fall 2012. Candidates are expected to have a Ph.D. in Computer Science or a closely related field and to demonstrate potential for excellence in teaching and research. Candidates with research interests in the area of clinical/health informatics, including human-computer interaction, mobile computing, computer-based clinical decision support, and informatics support for clinical research, will receive the strongest consideration. However, excellent candidates in other areas will be considered.

This position is part of the vision of creating an obesity research center at Wayne State University. The candidate is expected to work closely with multidisciplinary faculty members affiliated with the obesity research center, which will be hosted in a newly developed building in the near future.

The Department of Computer Science, in the College of Engineering, has 23 faculty members with research in the areas of Artificial Intelligence, Bioinformatics, Graphics and Visualization, Software Engineering and Computer Systems. The Department is also highly interdisciplinary with active collaborations with faculty in medicine, engineering and science. Recently, the Department has produced five NSF Career awards and has external funding exceeding $6 million annually. The Department currently has over 70 Ph.D. students, 60 Masters students and over 230 undergraduate majors. Further information about the Department can be found at http://www.cs.wayne.edu. The College of Engineering (http://engineering.wayne.edu) has annual expenditures of approximately $20 million. Wayne State University is a Carnegie Research Extensive University offering more than 350 academic programs through 13 schools and colleges to more than 32,000 students, with more than 11,000 graduate students. WSU has approximately $260 million in annual research expenditures. WSU, in partnership with the University of Michigan and Michigan State University, has a key role in Michigan's University Research Corridor (http://urcmich.org/) and is closely involved with TechTown, the area's business incubator (http://techtownwsu.org/).

Applicants should submit a cover letter, statement of research and teaching and curriculum vitae with the contact information for three references. For full consideration, applications must be received by February 15, 2012. All applications must be received online at https://jobs.wayne.edu, position number 038361. Nominations and inquiries should be directed to Weisong Shi, Chair of the Search Committee, at weisong@wayne.edu.

Wayne State University is an equal opportunity educational institution/equal opportunity employer.

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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.

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