COMPUTING RESEARCH NEWS

Senate Spending Bill Provides Substantial Increase for IT Research

By Lisa Thompson

Once again, the Senate Appropriations Committee has come to the rescue of the National Science Foundation, adding considerable funds to the House's budget recommendations for the agency (detailed in September *CRN*). The Senate version of HR 4635, the FY 2001 VA, HUD, and Independent Agencies appropriations bill, would provide NSF with $4.3 billion for the year. While this is less than the $4.6 billion the agency requested, it represents a 9 percent increase above the FY 2000 budget and a significant improvement on the meager 3 percent increase included in the bill passed by the House.

Moreover, the Senate bill calls for a 140 percent increase in funding for information technology research: ITR is currently funded at $90 million and would get an additional $125 million for FY 2001. The Senate measure would also reinstate the requested $45 million in second-year funding for Terascale Computing Systems.

The Senate committee report accompanying the bill specifies:

"To further NSF's major initiatives, the Committee recommends an additional $125,000,000 in new funding to enhance its computer and information science and engineering activities consistent with the President's Information Technology Advisory Committee (PITAC) recommendations in its February 1999 report. These additional funds would increase the level of support for the information technology initiative to $215,000,000. As prescribed in the PITAC report and the fiscal year 2000 conference report accompanying the VA, HUD, and Independent Agencies Appropriations Act (House Report 106-379), the Committee expects NSF to provide an increased ratio of grants at higher funding levels and for longer duration than what is typically funded. Further, the Committee encourages NSF to continue its efforts under the Next Generation Internet program in providing high-speed networking access to remote and hard to reach areas, especially in rural States."

None of this is final as of *CRN* press time; the full Senate has yet to consider the bill. In fact, the

President had signed only 3 of the 13 appropriations bills when the fiscal year began on October 1, 2000. While several bills are on track toward completion, a few others, including the VA-HUD bill, are stalled by partisan stalemate, particularly in the Senate. Nevertheless, on those bills in which congressional leaders have been able to cut deals with the President, significant funds had to be added to appease both sides. The Republicans, who earlier this year swore to hold fast on the budget, are clearly yielding to election-year expediency and a President who remains strong despite his lame-duck status.

While disputes over funding for housing and other programs prevent progress on the VA-HUD bill, Senate support for expanding the NSF budget has not been difficult to come by.

In August, the Chairman and Ranking Democratic Member of the VA-HUD subcommittee, Christopher Bond (R-MO) and Barbara Mikulski (D-MD), respectively, issued a 'Dear Colleague' letter calling for the doubling of the NSF budget over five years. A 'Dear Colleague' letter is like a petition, circulated for signature among legislative colleagues and ultimately presented to the congressional leadership; the more signatures, the better.

The Bond-Mikulski letter attracted nearly 40 signatures,

including that of the Chairman of the full Appropriations Committee, Ted Stevens (R-AK). In the meantime, one of the intended recipients, Majority Leader Trent Lott (R-MS), along with three GOP colleagues, wrote a letter to Chairman Stevens urging him to ensure strong support for NSF in FY 2001 appropriations.

In their letter, Senator Lott and his co-writers cite NSF's IT research activities as a key area of interest:

"Programs at the NSF address many of the longer-term research needs of the high-tech community. For example, the Information Technology Research Initiative at NSF will fund research in several critical areas: software, which is of paramount importance; building

Mitsubishi Electric Research Laboratories

By Richard (Dick) Waters

Mitsubishi Electric Research Laboratories (MERL) is the corporate R&D arm of the Mitsubishi Electric Company (MELCO) in North America. MELCO is a diversified manufacturer of electrical products ranging from air conditioners, auto parts, elevators, and TVs to optical fiber networks, cell phones, semiconductors, and satellites. MELCO shares historical roots in 19th-century Japan with other Mitsubishi companies such as Mitsubishi Heavy Industries and Mitsubishi Motors, but has been a separate company since its founding in 1925.

MERL conducts application-motivated basic research and advanced development in computer and communications technology. We seek to contribute to the advancement of science and to meet human needs by creating fundamental new technology that expands the productive use of computers. Our vision is both long-term and market-driven. We seek to anticipate

and then meet market needs and business opportunities. This means exploring entirely new possibilities as well as improving what is now possible. Because computer and communication technology affects nearly every aspect of modern life, and because MELCO is a broadly diversified company, there are many opportunities for our research results to contribute to MELCO's business success.

MERL focuses on three key technology sectors: human/computer interaction featuring advanced graphics and computer vision technologies; Internet computing and applications; and digital communication. Each of our labs focuses on specific segments of these technologies, while working collaboratively to achieve groundbreaking results. Our output ranges from papers and patents, through proof-of-concept hardware and software prototypes, to industry-first products.

Dick Waters

MERL is small enough to be agile and flexible in the dynamic marketplace of ideas and innovations. In addition, we gain leverage from the size, recognition, and diversity of our strong global parent. We turn our technical achievements into business successes by partnering with MELCO's business units and with other labs in MELCO's global R&D network. With selected projects, we do early business development directly with customers, in collaboration with

Expanding the Pipeline

The Undergraduate Experience at the Grace Hopper Conference

By Joan Francioni

The Grace Hopper Celebration of Women in Computer Science conferences bring together women who are developing, advancing, and studying various fields of computing to celebrate the accomplishments of women in computing. At the same time, the meetings provide an important training and networking opportunity for women. Telle Whitney, general chair of this year's conference, pointed out that the conference is "especially committed to including the next generation of women in its programs."

A large number of students attended the third Grace Hopper Celebration in September. Many were supported, in part, by the more than 130 student scholarships awarded by the conference. Was the conference a positive experience for the students? In particular, what kind of experience did they have? Did attending the conference increase the chances of these young women staying in computer science and possibly going on to graduate school, or not?

In this article, I report on the experiences of seven undergraduate women who attended this year's Grace Hopper Celebration. Overall, all seven reported that the conference was a positive experience. However, not everything about the conference was positive for them, and some aspects of the conference affected them in ways one might not have expected.

The four sophomores and three seniors attend small, liberal arts, undergraduate institutions. It was their first professional conference. The students attended both the keynote address by Dr. Rita Colwell, Director of the National Science Foundation, and the closing panel session of experts. The panel was moderated by Dr. Moira Gunn of National Public Radio's Tech Nation, and included Barbara Simons, past President of ACM; Fran Allen, IBM; Ruth Davis, Santa Clara University; Mary Shaw, Carnegie Mellon University; and Suze Woolf, Microsoft. The students also attended other talks, panels, and receptions over the course of the two and a half days of the conference. Upon returning to school, they were asked to write up a report describing their experiences.

All of the students recognized tangible benefits from hearing presentations given by accomplished women in the field. For one, they were impressed with the women:

"I was completely in awe of their pioneering spirit, their ability to hold their own in a male-dominated field, their enthusiasm and zeal for the subject."

"All [of the presenters] were very optimistic and inspiring about the future of women in computer science."

Another benefit was that the students were able to see themselves in these women:

"They used to be students too and now they have great careers."

"It was fun even just to know that they actually have families and are not different from other women. My previous imagination was far from that."

The students also described how listening to the presenters and interacting with other women at the conference increased their own self-confidence. One student commented:

"Everyone I met had been in my shoes at one point or another. By seeing so many women who have already accomplished what I aspire to someday do, I gained a lot of self-confidence."

One of the seniors, with a near 4.0 GPA, said:

"Listening to many of the speakers speak about the common problems girls face in this field, I realized that I was not alone in my fear that I know less than the boys in my class."

A primary theme of the conference was the connection between computing and other fields. This exposure to a wide variety of fields and topics was very positive for the students. One interesting observation related to this is that the three seniors had all previously participated in summer internships—one at IBM-Rochester and two at the Mayo Hospital Clinic. Although these internships had exposed the students to "real-world" jobs, they had also convinced them that there was a relatively narrow path to be followed in a computer science job. Their conference experience completely changed this opinion. For example:

"After attending a few of the talks, I realized there were many different options and paths that I could take in continuing my education while working in industry. I also was exposed to a wide variety of fields and topics that I found fascinating. After attending a talk, I actually had an idea of what I would like to do research in."

"Many of the talks so piqued my interest that going to graduate school in computer science seems like a viable option."

"But now, after being made aware of the many ways that technology can help improve people's lives, I see a path which may be the golden mean for me—a way to use my abilities and interests to realize my ideals!"

A more subtle benefit of the conference was the support the students felt at the conference for what they were trying to do. As one student said:

"At the conference, it was great to be among a group of women who believed in us and expected us, as students, to do well."

Often, the students told me, people either act surprised that they do well in computer science or treat them as "nerds."

On the negative side, one of the sophomores said that at the conference she felt a lot of pressure to stay in computer science and that she felt "stuck in the pipe[line]." Several students also found some of the retention statistics scary and wondered if they, too, were likely to quit computer science as a major. The students also had some general conference mishaps, such as not realizing an "invited" session meant the speakers were invited, not that attendance required an invitation. In some cases, they attended talks that were not of interest to them or were over their heads. Over the course of the conference, however, they were able to catch on to what to do and not do.

The students as a whole seemed to be very surprised by the overall statistics of the number of women in computer science at all levels. They had thought the small number of women in their classes was just a local phenomenon. One student also said that she thought some of the stories about fewer women than men in CS, and the sometimes negative atmosphere of an all-male environment, were exaggerated. Interestingly enough, this same student attended her first CS-club meeting the week after returning from the conference. She told me that, before the conference, she probably would have reacted to the fact that "Quake" gaming tournaments were the major activity being planned for the club by not joining the club. But after going to the conference, she felt confident enough to speak up at the meeting and convince them to consider doing other things as well this semester.

As I read the students' reflections about the conference, I felt they had indeed benefited. I also think they were very lucky to have this kind of exposure while they are still undergraduates, even if they don't yet realize some of the benefits. As a discipline, we have benefited as well—since the conference, five of the seven students have said they want to go on to graduate school. (Only one was certain before the conference.) But what about the female undergraduate students who don't have this kind of opportunity? How do we expose all of our students to certain issues—such as the effects of an environment dominated by one group on the self-confidence of other groups—without offending, or even scaring, one or the other? How do we expose students early on to the broader

CRA Service Awards Presented at Hopper Conference

CRA presented its 2001 service awards at the Grace Hopper Celebration of Women in Computing Conference on Cape Cod in September.

CRA presents two awards, usually annually, to individuals for outstanding service to the computing research community. The first, the Distinguished Service Award, recognizes service in the areas of government affairs, professional societies, publications, or conferences, and leadership that has a major impact on computing research.

The second award honors the late A. Nico Habermann, former head of NSF's Computer and Information Science and Engineering Directorate. Dr. Habermann was deeply committed to increasing the participation of women and underrepresented minorities in computing research. This award is given to an individual who has played a leadership role in aiding members of underrepresented groups within the computing research community. It recognizes work in areas of government affairs, educational programs, professional societies, and public awareness.

CRA Distinguished Service Award

Marjory Blumenthal, Executive Director of the National Research Council's Computer and Telecommunications Board (CSTB), was selected to receive CRA's Distinguished Service Award for 2001. Mary Lou Soffa, Vice Chair of the CRA Board, presented the award.

For the past 13 years, under Marjory's leadership, CSTB's work has been influencing public policy in information technology. CSTB has produced about 50 reports that contribute in one way or another to the

Marjory Blumenthal

health of the computing field, and to its visibility in government circles. A few recent examples of reports that have had an impact include: *The Digital Dilemma: Intellectual Property in the Information Age; Being Fluent With Information Technology; Modeling and Simulation: Opportunities for Collaboration Between Defense and Entertainment; Cryptography's Role in Securing the Information Society;* and *Evolving the HPCC Initiative to Support the Nation's Information Infrastructure.*

Marjory's vision and commitment to quality, and her track record of hard work, dedication, and determination, have earned her and CSTB the respect of the computing community.

Marjory did her undergraduate work at Brown University and her graduate work at Harvard University as a NSF Fellow. She was a project director at the Congressional Office of Technology Assessment, and later worked for GE Information Services as Manager of Competitive Analysis and Planning. In 1998, Marjory spent a sabbatical as a Visiting Scientist at MIT LCS, where she developed and taught a course on public policy for computer science graduate students.

Marjory is a member of the Santa Fe Institute Science Board, the Advisory Board of the Pew Internet & American Life Project, the Carnegie Endowment for International Peace Study Group on the Information Revolution and World Politics, and the ACM, AEA, and IEEE. Additional biographical information is available on the Web at http://www.cstb.org.

CRA A. Nico Habermann Award

Anita Borg, President of the Institute for Women and Technology, received CRA's A. Nico Habermann Award for 2001. Jan Cuny, a CRA Board member and chair of the Habermann Award Committee, presented the award.

Anita Borg

For more than 15 years, Anita has worked tirelessly to create a community of women in computer science. She has encouraged women to make connections, give and receive advice, exchange information, develop their own strengths, and reduce their sense of isolation.

Among Anita Borg's many accomplishments is the Systers electronic mailing list. For 10 years, Anita was the Keeper of Systers,

moderating its discussions, developing web-based information and communication technology to support it, and nurturing its community. Another major accomplishment is the Grace Hopper Celebration of Women in Computing, which Anita co-founded with Telle Whitney to highlight the research of women, build community, and provide career development opportunities.

More recently, Anita founded the Institute for Women and Technology, a non-profit institution with two visionary goals: to increase the participation of women in all aspects of technology and to increase the positive impact of technology on the lives of women. IWT has assumed responsibility for Systers and the Hopper Celebration and has launched a new initiative, called Virtual Development Centers, in which ideas generated in exploration and innovation events are realized in prototypes by faculty, students, and professionals.

Anita has served on a variety of boards and committees, including the recent Congressional Commission on the Advancement of Women and Minorities in Science, Engineering, and Technology; the National Academy of Engineering Celebration of Women in Engineering Steering Committee; the National Research Council Committee on Women in Science and Engineering; the CRA Board; and CRA-W.

Anita Borg has a Ph.D. in Computer Science from the Courant Institute of Mathematical Sciences, New York University. Since 1997 she has been a member of the research staff at Xerox PARC. Prior to joining Xerox, she was a consulting engineer with Digital Equipment Corp. Additional biographical information is available on the Web at: http://www.iwt.org/borg.html. ∎
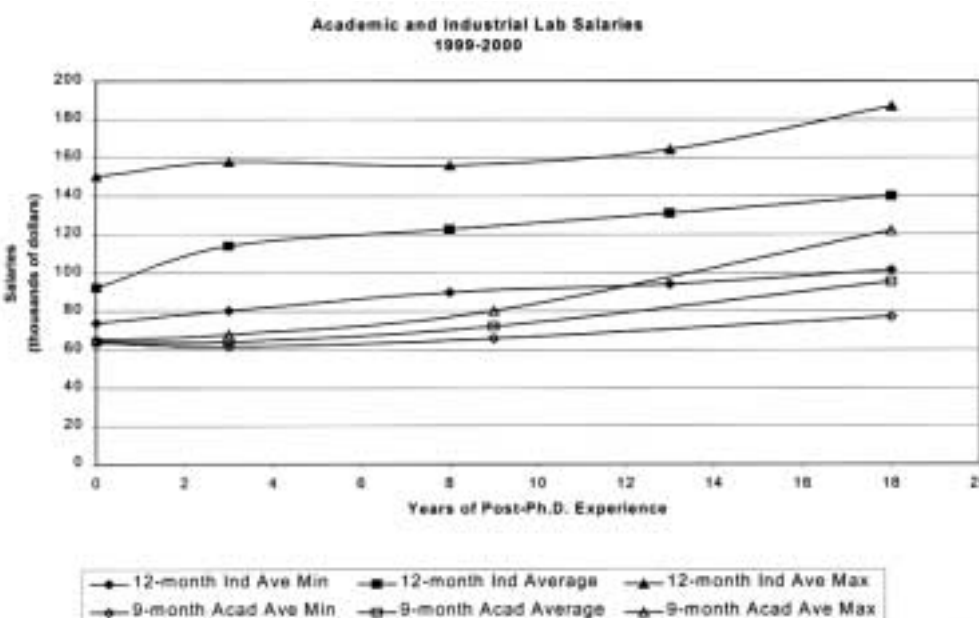

Results of Third Salary Survey of CS Industry Research Labs

By William Gear

In October 1999, CRA conducted its third Industrial Salary Survey of CS Research Laboratories. Twelve organizations representing 1,378 researchers responded. Of these

researchers, 91 percent held Ph.D.s. (Eleven of the organizations are members of CRA.) The companies that participated received an early summary of the data in November

1999, followed by a detailed analysis in February 2000. The results are summarized in the graph below, which compares the data with those of the most recent Taulbee Survey of Academic Salaries (*CRN*, March 2000).

The survey covered Ph.D. CS researchers. The respondents were asked to provide minimum, average, and maximum salaries when starting and over four additional five-year periods. CRA computed the averages of these numbers, shown in the graph. The respondents provided data about *base salary* (the annual salary independent of items such as bonus and options) and *variable salary* (which includes items such as bonuses and the value of stock options that respondents were asked

to estimate). Note that, in this year's survey, the high value of options reported by few respondents had a significant effect on the average salaries and a major impact on the numbers reported for average maximum salaries. Without the variable salary data, the average base salaries ranged from $9,000 to $27,000 lower; the average minimum base salaries ranged from $3,000 to $15,000 lower, and the average maximum salaries ranged from $20,000 to $40,000 lower.

Because companies provide annual adjustments at different times of the year, respondents were also asked to indicate the month in which annual salary adjustments were made. In order to compare these data with the Taulbee Survey of tenure-track academic CS salaries (which are almost always for the period September through August), the

Academic and Industrial Lab Salaries
1999-2000

- 12-month Ind Ave Min   - 12-month Ind Average   - 12-month Ind Ave Max
- 9-month Acad Ave Min   - 9-month Acad Average   - 9-month Acad Ave Max

CRA Profiles CS/CE Ph.D.-Granting Departments

By Stephen Seidman and Mirek Truszczynski

In spring 2000, the Computing Research Association conducted its second survey of North American Ph.D.-granting programs of computer science and engineering to collect data on budget, research funding, staff support, space, faculty teaching loads, and graduate student support. The survey requested data for the most recent annual period for which the data were available. In most cases this meant the period from July 1, 1998 to June 30, 1999. The results of the survey were reported in a workshop at the 2000 CRA Conference at Snowbird in July.

The survey was sent to 186 Ph.D.-granting programs in computer science and computer engineering. Because the response from Canadian programs and computer engineering programs was both small and unrepresentative, their data were not included in this report. The response rate for US programs was 55.7 percent, with 88 out of 158 programs responding to the survey.

The US CS programs are divided into four groups according to the most recent National Research Council ranking: departments ranked 1 to 12 (6 responses); departments ranked 13 to 24 (9 responses); departments ranked 25 to 36 (10 responses); and departments ranked 37 or higher (63 responses). In a different analysis, we divided the US CS programs according to whether the corresponding institutions are public (64 responses) or private (24 responses).

Support Staff

Table 1 presents the mean and median ratio of the number of secretaries, computer support staff, and research programmers to the number of full-time equivalent (FTE) faculty for all categories of programs described above. Privately funded institutions have generally higher levels of staff support per FTE than institutions that are publicly supported, and staff support is generally better in higher ranked departments. Table 2 shows the percentage distribution in sources of support for department staff (means over all responding units in each group).

Budget

Table 3 presents the mean and median annual department expenditures per faculty member (in thousands of US dollars). The variation between the categories is extremely wide. For example, the median department expenditure per FTE for a program ranked 37 or higher is more than 60 percent lower than the same measure for programs ranked 13 to 24. Some of the variation may be due to differing interpretations of the survey question.

Table 4 summarizes the survey data on the amount of external funding per FTE faculty member. There is a significant difference between private and public institutions and between top-ranked departments and departments ranked 37 and above.

Table 5 illustrates the role of various funding agencies in providing external research funding. Overall,

NSF and DARPA provide about 50 percent of research funds, but the breakdown varies significantly across the groups of programs. NSF provides the highest proportion of funding in all program groups. DARPA plays a significant role in funding for programs ranked 1 to 36. In other programs, sources other than DARPA play a more important role in supporting research.

Space

Table 6 summarizes the survey data on departmental space. There are significant differences between US private and public institutions, and between top-ranked US departments and those ranked 37 and higher. For example, the category means suggest that private institutions have nearly 35 percent more space per faculty member than public institutions. (If category medians are used, the corresponding margin is 20%.) Similar differences appear when data for department ranking are used. For example, departments ranked 1 to 36 report approximately 1300 sq. ft. per FTE faculty member (using median data), while departments ranked 37 and up report 1035 sq. ft. per FTE.

In the survey, we also asked about the use of departmental space. Since we found no clear trends as a function of type or ranking, the average space usage over all responses is reported in Table 7.

The survey indicates significant activity with respect to recent or forthcoming space allocated to US computer science departments. More than half (51%) of the US departments expect to gain new or newly renovated space, and 81 percent of these departments expect to have the new space by the end of 2003. The amount of the anticipated new space ranged widely (median 20,800 sq. ft., mean 31,503 sq. ft.). Department rank played a major role: the mean anticipated new space was 62,713 sq. ft. for departments ranked 1 to 36, and 18,299 sq. ft. for departments ranked 37 and higher.

The survey asked respondents to indicate sources of funding for newly acquired or renovated space. The responses are summarized in Table 8. Institutional and state funding were listed most often, 58 percent and 51 percent, respectively, followed by private (42%) and industrial (20%) funding. Federal funding was reported only sporadically.

Teaching Loads

Data submitted from departments using the quarter system were converted to semesters (1 quarter course = 0.67 semester course). An official annual teaching load of between 2 and 3 semester courses was reported by 52 percent of the respondents, and an additional 35 percent of the respondents reported an official load of between 3 and 4 semester courses. The minimum reported was 1.33 and the maximum reported was 8 semester courses. In Table 9, the data indicate that both official and actual teaching loads are strongly correlated with department rank. Teaching loads reported by departments at private universities are lower than those reported by departments at public institutions.

Of the departments that responded to the survey, 93 percent permit teaching-load reductions. Of these departments, 85 percent allow for reduction as part of startup packages for new faculty members. Other reasons commonly cited for load reductions are: administrative duties, course buyout, strong research program and type and size of class (cited by 88%, 78%, 37%, and 28% of the departments, respectively). The average reported buyout was 22 percent of annual salary; the median buyout rate reported was 20 percent.

Of the departments that responded to the survey, 72 percent permit teaching-load increase; of those reporting, 78 percent reported a shift in primary responsibility to teaching as the reason for the increase.

Graduate Student Support

For 84 percent of US programs, the standard work requirement for teaching assistants is 20 hrs/week, with the mean being close to 20 hrs/week for all categories of programs. For research assistants, 88 percent of the US programs report 20 hrs/week as the standard work requirement. There were no significant differences between public and private institutions or between institutions of different rankings.

Table 10 gives the number of TAs and RAs per FTE faculty member. The TA ratio was higher for public institutions, while the RA ratio was higher for private institutions. Highly ranked programs also tended to have higher ratios for both TAs and RAs. Table 10 gives the ratio of students on full fellowship to the number of FTE faculty. This ratio is higher for private institutions than for public ones, and, once again, highly ranked programs tended to have higher ratios.

The survey also asked for the net value of stipends (stipend minus tuition and fees) for teaching assistants, research assistants, and those with fellowships. The mean and median net stipends are shown in Table 11. Once again, there is some

variation in net stipends between public and private institutions, and also among programs of different rank. The data also show that while TA stipends do not differ much from RA stipends, both are lower than fellowship stipends.

In response to a survey question on factors affecting the amount of the stipend, academic progress was given most frequently (57%). Other commonly reported factors are: passed qualifier (49%), differences in the source of funding (45%), recruitment enhancements (32%), and GPA (15%).

The survey provided interesting insights into recruitment incentives used to attract new graduate students. Stipend enhancements were reported by 45 percent of the US programs; the mean and median amounts were $4,854 and $3,000. Guaranteed

Table 1. Support Staff per Faculty Member

	Secretarial Staff		Computer Staff		Research Staff	
	mean	median	mean	median	mean	median
Private	0.47	0.46	0.23	0.21	0.41	0.20
Public	0.36	0.31	0.23	0.18	0.17	0.08
US CS Ranked 1-12	0.54	0.49	0.38	0.40	0.22	0.14
US CS Ranked 13-24	0.58	0.60	0.25	0.20	0.47	0.47
US CS Ranked 25-36	0.56	0.56	0.37	0.34	0.22	0.22
US CS Other	0.33	0.29	0.19	0.14	0.21	0.05
US	0.39	0.33	0.23	0.19	0.24	0.09

Table 2. Institutional/External Support Staff Funding, Proportion of Total

	Secretarial Staff		Computer Staff		Research Staff	
	Inst	Ext	Inst	Ext	Inst	Ext
Private	0.89	0.11	0.83	0.17	0.06	0.94
Public	0.90	0.10	0.83	0.17	0.06	0.94
US CS Ranked 1-12	0.95	0.05	0.66	0.34	0.22	0.78
US CS Ranked 13-24	0.78	0.22	0.58	0.42	0.06	0.94
US CS Ranked 25-36	0.81	0.19	0.75	0.25	0.22	0.78
US CS Other	0.92	0.08	0.90	0.10	0.00	1.00
US	0.90	0.10	0.83	0.17	0.06	0.94

Table 3. Annual Operating Budget per Faculty Member (thousands of US dollars)

	mean	median
Private	$29	$22
Public	38	16
US CS Ranked 1-12	15	13
US CS Ranked 13-24	50	43
US CS Ranked 25-36	71	33
US CS Other	30	14
US	36	18

Table 4. Annual Expenditure from External Sources per Faculty Member (thousands of US dollars)

	mean	median
Private	$237	$200
Public	116	82
US CS Ranked 1-12	187	182
US CS Ranked 13-24	287	224
US CS Ranked 25-36	164	151
US CS Other	113	75
US	144	90

NSF Funds National Study of Gender Gap in Attrition from Undergrad CS

By Joanne McGrath Cohoon

The National Science Foundation is funding a nationwide study of the characteristics and practices of computer science departments. The goal of this research is to identify departmental features that influence the disproportionate loss of undergraduate women from IT majors. The study results will help determine effective methods for retaining female students in undergraduate computer science.

This project is based on a pilot study conducted in Virginia and funded by the Alfred P. Sloan Foundation. The Virginia study documented that some computer science (CS) departments retain their female undergraduates at rates similar to those of male undergraduates. These successful departments contrasted with the average Virginia CS department where the attrition rate was 9 percent higher for women than for men.

Using three types of data and both quantitative and qualitative analyses, the Virginia study found that four departmental characteristics and practices affected the size of the gender gap in departments' attrition rates: 1) the gender composition of the faculty and students; 2) faculty attitudes and behaviors; 3) institu-

tional support for the department; and 4) the local job market.

Every Virginia department that awarded Bachelor's degrees to both men and women between 1992 and 1997 participated in the pilot study. Official data from the State Council for Higher Education in Virginia were used to calculate attrition rates by gender for each department in the study. These rates measured the size of the gender gap as the average annual difference in male and female attrition rates over a five-year period.

The other two data sources for the Virginia pilot were interviews and a written survey. Twenty-nine personal interviews with chairpersons, faculty, and groups of students produced descriptive information about characteristics common to CS departments. These onsite interviews took place in 1998 at five of the study departments. Using the interview data as a foundation, a written survey was constructed and implemented to collect quantitative data on a range of departmental characteristics. Participants included 110 CS faculty and chairpersons at 23 CS departments. The overall survey response rate was 65 percent and the average departmental response rate was 68 percent. Descriptive data from the survey can be found on the Internet at http://faculty.virginia.edu/

attrition-cs-bio/. More complete information about the Virginia study and its results will be available in the *Communications of the ACM* (Cohoon, *forthcoming*).

The results of the Virginia pilot study were valuable. However, they are limited by the small number of departments that participated. To build on the pilot study, NSF has awarded a grant to Joanne McGrath Cohoon, sociologist and author of the Virginia study; James P. Cohoon, professor of computer science and author of a text for introductory CS courses; and Sarah Turner, professor of education and economics and author of papers on the gender gap in students' choice of a college major. Together, these researchers will develop and expand the Virginia pilot study to the national level.

The national project will include more than 200 CS departments. The departments selected will be those that produce the largest numbers of CS Bachelor's degrees in the United States. Teams of interviewers will first visit 12 of these departments; then all of the study departments will be surveyed. The project will result in a detailed profile of the average high-enrollment CS department; statistical information about the departmental characteristics and practices that promote female retention at rates com-

parable to male retention; and recommendations for action based on the study findings.

Like the Virginia pilot study, participation in the national study will be kept strictly confidential. All project reports and publications will use identification codes and summary data. Institutions that participate will never be named and departments will not be described to an extent that they become identifiable. As a benefit of participation, each department will be provided with its own identification code. In this way, departments will be able to distinguish their own characteristics and compare with other study departments without jeopardizing confidentiality.

The success of this national project depends on the cooperation and support of CS faculty and chairpersons. The enrollment numbers, interview and survey data each participant provides will make it possible to accurately represent departments and undergraduate CS education as a whole. The findings that emerge from these data will show how women can be retained in the CS major.

Dr. Joanne McGrath Cohoon is a sociologist at the University of Virginia. ∎

CRA Offers Workshop for New Faculty and Advanced Graduate Students

CRA announces a workshop on February 4-6, 2001 in the Washington, DC area for new faculty and advanced graduate students in computer science, computer engineering, computational science, and other computing-related disciplines. The workshop focuses on practical methods for having a successful and fulfilling academic career. Some of the sessions will cover topics on how to be an effective teacher, such as learning styles, designing a course, lecturing effectively, and collaborative learning. Other sessions will discuss important aspects of the academic career, such as selecting and managing a research project, preparing a tenure dossier, time management and family issues, and writing a successful research-funding proposal.

CRA's Committee on the Status of Women in Computing Research (CRA-W) initiated these workshops in the mid-1990s, and they proved to be so successful that CRA began offering additional workshops to supplement those offered by CRA-W. Attendees have routinely evaluated the workshops as excellent, and many of the senior members of the computing research community who have made presentations in the workshops have rued the fact that there were no

similar workshops when they began their academic careers.

Based on suggestions from department chairs and the CRA board of directors at CRA's Conference at Snowbird in July, several changes and additions have been made that should make the upcoming workshop even more valuable:

- Two workshops (effective teaching and academic careers) will be merged into a single workshop, rather than running in parallel as they did in the past. This will allow participants to attend all sessions.

- The workshop is being co-located with the CRA board of directors' meeting and the CRA Computing Leadership Summit, the latter bringing together the presidents, executive directors, and other senior volunteers from AAAI, ACM, CRA, CSTB, IEEE Computer Society, SIAM, and USENIX. A joint social event is planned with CRA board members and Summit attendees that will provide workshop participants an opportunity to meet

informally with senior leaders from the computing community.

- The workshop will include talks by senior members of the two largest funding agencies for computing research, NSF and DARPA, providing overviews of the agencies' operations and funding programs. There will also be a workshop led by NSF staff on how to write a good funding proposal.

At Snowbird, the majority of department chairs indicated that they would like their new faculty members to attend these workshops and would be willing to pay the costs. It may be more difficult for advanced graduate students to find funding to attend, so CRA is seeking external funding for this purpose. As *CRN* goes to press, we do not have final word about this funding for graduate students.

For further information about the workshops, see the January issue of *Computing Research News* or http://www.cra.org/Activities/workshops/2001. The website includes an online registration form. ∎

Recent Reports on the IT Workforce

In April 1999, the Computing Research Association published a major study on the IT workforce, *The Supply of Information Technology Workers in the United States,* authored by Peter Freeman and William Aspray. This report examined the political context of the IT worker issue, presented a definition of IT worker, reviewed existing data sources, analyzed the issue of whether there is a shortage, described the various formal and informal ways in which to obtain training and education, discussed contextual issues, described the role of women and underrepresented minorities, investigated the seed-corn problem, and provided a set of recommendations. A limited number of copies of the report are still available from CRA (contact info@cra.org). The report can be downloaded from the CRA website at: http://www.cra.org/reports/wits/cra.wits.html. (For legislative updates on workforce issues, see also CRA's Government Affairs website at: http://www.cra.org/govaffairs/issues/workforce.html)

Since the publication of CRA's report, a number of other reports have been published. This article provides brief descriptions of these reports and information on how to obtain them.

Information Technology Association of America, "**Bridging the Gap: Information Technology Skills for a New Millennium**," July 2000.

This report is based on telephone interviews with 200 IT companies and 500 non-IT companies—all for-profit companies with at least 50 employees. The report discusses:
• The overall size of the IT workforce, the demand for qualified workers, and the gap between supply and demand.
• The hottest, most in-demand jobs.
• The skills workers need to grab one of these hot jobs.
• The best way for workers to acquire these skills.

The report takes a broad definition of IT worker and asserts that there are approximately 10 million such jobs in the United States, and that more than 800,000 are likely to go unfilled. It notes that a very significant portion of the demand is for technical support and network administration positions, followed by database development and software engineering positions. The report concludes that employers find training after the employee is hired to be more effective than pre-hire methods of training, but that only 10 percent of firms are willing to hire partially qualified workers and provide training for them to become fully qualified. Outsourcing and temporary/contract employees, followed by shifting work to existing employees, are the strategies most commonly used by companies facing IT worker shortages.

The executive summary of the report is available online at: www.itaa.org/workforce/studies/hw00 execsumm.htm. The full report can be ordered for $25 from Information Technology Association of America, 1401 Wilson Boulevard, Suite 1100, Arlington, VA 22209, telephone (703) 522-5055, fax (703) 525-2279.

Suzette Brooks Masters and Ted Ruthizer, "**The H-1B Straitjacket: Why Congress Should Repeal the Cap on Foreign-Born Highly Skilled Workers**," Cato Institute, Center for Trade Policy Studies, Trade Briefing Paper No. 7, March 3, 2000.

The mission of the Cato Institute's Center for Trade Policy Studies is "to increase public understanding of the benefits of free trade and the costs of protectionism." The position taken in this report squares with the organizational mission, arguing in favor of lifting caps on the H-1B visas. The authors are Suzette Brooks Masters, an attorney who is on the board of directors of the National Immigration Forum, and Ted Ruthizer, an attorney who is a former president of the American Immigration Lawyers Association.

Even if the H-1B debate is settled politically before this article goes to press, the 17-page briefing paper provides lively arguments and a number of pieces of interesting evidence that may have enduring interest. Positions taken in the report include:
• The cap is hampering output, especially in high-technology sectors of the economy, and forcing companies to consider moving production offshore.
• Expected growth in demand for IT workers cannot be met by domestic supply alone.
• Fears that H-1B workers cause unemployment and depress wages are unfounded.
• A new H-1B engineer will typically create demand for three to five additional American workers.
• Reports of systematic underpayment and fraud in the H-1B program are false.
• Wages are rising fastest and unemployment rates are lowest in industries in which H-1B workers are most prevalent.

The report can be downloaded as a PDF file at: http://www.freetrade.org/pubs/briefs/tbp-007es.html.

Carol Ann Meares and John F. Sargeant, Jr., *The Digital Workforce: Building Infotech Skills at the Speed of Innovation*, U.S. Department of Commerce, Technology Administration, Office of Technology Policy, June 1999.

This report is based on 13 convocations and town meetings held by the Department of Commerce during 1998, together with information gathered from other meetings, results from a task force for the Federal CIO Council exploring IT workforce issues in the federal workforce, an investigation of a wide array of data, and study of the rapidly emerging literature and expert testimony before the U.S. Congress on this subject.

Topics include:
• Forces driving the demand for skilled IT workers.
• The business environment, how it is affected by information technology, and how it affects the labor market for core IT occupations.
• National supply and demand in core IT occupations, using government data sources.
• Indicators of a tight labor market for skilled IT workers.

• State and regional perspectives on supply, demand, and salaries.
• Information gathered from the OTP town meetings and other meetings.
• Federal initiatives to address the problem.
• Recommendations for action by businesses, universities and community colleges, and local, state and federal governments.

An executive summary can be found at: http://www.ta.doc.gov/reports/itsw/execsumm.htm. The entire 128-page report is available in PDF format online at http://www.ta.doc.gov/reports/itsw/Digital.pdf.

Digital Economy 2000, Economics and Statistics Administration, Office of Policy Development. U.S. Department of Commerce. June 2000.

This is the Commerce Department's third annual report on information technology and its impact on the U.S. economy. The report covers many different topics, including electronic commerce, software and computer services, place of the IT industries in gross domestic product, usage of IT equipment, research and development investment in IT industries, contribution of information technology to productivity growth, trade in information technology goods and services, and the implications of IT-focused investment for the business cycle. Only one small part (chapter 5), written by Sandra Cooke, covers the IT workforce.

The chapter on the workforce gives a high-level overview using federal statistics. Topics include past and recent employment trends, wage trends and skill requirements in both IT-producing industries and in IT occupations, factors affecting the supply of IT workers, and the responses by both the public and private sectors to the growing demand for these workers.

The 67-page report can be found online at http://www.esa.doc.gov/de2k.htm. The author of the workforce chapter can be reached directly at: sandra.cooke@mail.doc.gov.

A Nation of Opportunity: Building America's 21st Century Workforce, June 2000. Report prepared by the 21st Century Workforce Commission, c/o National Alliance of Business, 1201 New York Avenue, Suite 700, Washington, DC 20005.

The 21st Century Workforce Commission is a panel of 17 leaders from business, education, labor, and government commissioned by the U.S. Congress to report to the President and Congress on "how best to ensure that American workers have the opportunity to prepare for and succeed in the IT jobs of today and tomorrow." [report, executive summary] The first two chapters set out the background on the role of IT in the national economy, the definition of an IT worker, core IT professions, IT skill clusters, and IT jobs in demand. The rest of the report is devoted to discussion of nine recommendations:
• Building "21st Century Literacy" (thinking, reasoning, teamwork skills, technological proficiency).

• Exercising Leadership through Regional and Local Partnerships.
• Strengthening High School Connections to Higher Education and the Workplace.
• Identifying Pathways into IT Jobs.
• Increasing Acquisition of IT Skills.
• Expanding Continuous Learning.
• Shaping a Flexible Immigration Policy for Skilled IT Workers.
• Raising Student Achievement.
• Making Technology Access and Internet Connectivity Universal.

An executive summary and the report are available online at: http://www.workforce21.org/finalreport.htm. A printed copy can be ordered by email sent to info@workforce21.org.

U.S. General Accounting Office, "**H-1B Foreign Workers: Better Controls Needed to Help Employers and Protect Workers**." Report to the Ranking Minority Member, Subcommittee on Criminal Justice, Drug Policy, and Human Resources, Committee on Government Reform, House of Representatives. GAO/HEHS-00-157, September 2000, 60 pp.

As the subtitle of the report suggests, the report is critical of present H-1B practices. ". . .Labor's limited legal authority to enforce the program's requirements and weaknesses in INS' program administration leave the program vulnerable to abuse. Delays and administrative problems have also led to inefficient service for employers using the program." Comments from the Department of Labor, the Department of State, the Immigration and Naturalization Service, and the National Science Foundation—some of which dispute the findings of the GAO—appear in appendices.

There is significant useful factual information, as well as analysis and evaluation in the report. For example, the report includes:
• information about the number of H-1B non-immigrants approved 1992-99;
• a summary of the visa application process;
• demographics of workers approved for H-1B visas by occupation, age, and country of birth; and
• the number of H-1B investigations, violations, and back wages due.

The report reviews the authority vested in the Department of Labor for the program and its limitations to initiate enforcement actions. It also examines procedures at INS that could lead to potential abuse. There is also a discussion of efforts that are underway to improve IT skills in the U.S. workforce, such as Labor's technical skill grant program and NSF scholarships. Recommendations are given to the Attorney General to direct the Commissioner of INS to take several steps to prevent H-1B abuse and better serve customers.

To order the report, visit GAO's website (http://www.gao.gov) or call 202-512-6000. ∎

Professional Opportunities

Adelphi University
Department of Mathematics and
Computer Science
Assistant Professor of Computer Science
Applications are invited for a tenure-track position in Computer Science to commence January (or possibly September) 2001. The candidate should have a record of superior undergraduate teaching and demonstrated potential for research. Preference will be given to candidates with backgrounds in networking, software engineering, or user-interface design; however all research specialties will be considered. Class size in Computer Science at Adelphi University are small (typically about 20), and we encourage close curricular interaction between faculty and students. The candidate must have completed a Ph.D. in Computer Science or related field by the beginning of the appointment date. Send application, including Curriculum vitae, and three letters of reference to:
 Dr. William L. Quirin
 Mathematics and Computer Science Chair
 Alumnae Hall
 Adelphi University
 Garden City, New York 11530
Those interested in a January appointment should respond as soon as possible.
AA/EOE. Women and Minority Candidates are encouraged to apply.

Auburn University
Department of Computer Science and Software Engineering
Faculty Positions and Director of Institute
The Department of Computer Science and Software Engineering invites applications for multiple tenure-track faculty positions and Director of the Institute for Reconfigurable Smart Components (IRSC). IRSC, which is a joint effort with the Department of Electrical and Computer Engineering, will focus on (1) creation of enabling technology for reconfigurable smart components, and the transfer of the technology, as appropriate, to industry; and (2) enhancement of the graduate research programs in the College of Engineering. The University will invest over $1M (estimated) in five years in new positions with an objective of gaining national prominence in the area over this time period.
Successful applicants may start in January or August 2001. Responsibilities include research, graduate student supervision, and graduate and undergraduate teaching. Applicants must have a Ph.D. in computer science, software engineering, or a closely related field. We are particularly interested in candidates with research interests related to IRSC in the areas of computer and communication networks, security, real-time and embedded systems, wearable computing, operating systems and software engineering; however, all areas of computer science and software engineering will be considered. Appointments will be made at the Assistant, Associate, or full Professor level commensurate with the candidate's qualifications.
Director of IRSC (12 month) - The successful candidate will have demonstrated excellence in leading a research effort in the information technology area and developing partnerships with government and industry. The candidate must qualify for appointment at the rank of Professor with tenure in the CSSE Department. The Director will report to the Dean of Engineering on matters related to the Institute. The Director will coordinate and manage the research effort and will provide much of the vision and direction for the Institute.
The CSSE Department currently has 13 full-time faculty members and supports strong undergraduate (B.S., B.Sw.E.) and graduate programs (M.S., M.Sw.E., Ph.D.). Faculty research areas include software engineering, computer and communication networks, human-computer interaction, wearable computing, artificial intelligence, and database systems. More information about the Department and faculty research interests can be obtained from the Department's home page (http://www.eng.auburn.edu/csse).
Auburn University was chartered in 1856, and is the largest university in the state of Alabama, with a student enrollment of over 22,000 and 1,125 faculty. Auburn is located 100 miles southwest of Atlanta and 50 miles northeast of Montgomery, the State Capitol. Auburn is ranked 38th overall and 34th in Engineering among public universities by U. S. News and World Report. Auburn offers nearly 150 baccalaureate degree programs in 64 academic departments. The graduate school provides master's level programs in 130 areas and doctoral programs in 96 fields. The College of Engineering has an enrollment of 3,100 undergraduates and 500 graduate students in 8 departments. 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 70,000, 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 5 references to:

 Dr. John M. Owens
 Chair, CSSE Search Committee
 College of Engineering
 108 Ramsay Hall
 Auburn University, AL 36849
 www.eng.auburn.edu/irsc/
The interview process will begin November 1, 2000 and continue until candidates are selected and recommended for appointment.
AA/EEOE/Women and Minorities are encouraged to apply.

Ball State University
Department of Computer Science
The Department of Computer Science seeks an applicant for a full-time, tenure track faculty position available August 17, 2001. Rank open. Responsibilities: desire and interest to teach all undergraduate and master's level graduate courses with a special background in one or more of the following areas—database, programming languages, computer networks, and software engineering; must be able to teach CS1 and CS2. An active, productive research program is required for tenure and promotion. Minimum qualification: doctorate in computer science or closely related field by August 1, 2001. Preferred qualifications: Ph.D. in computer science; record of scholarly research; teaching experience.
Ball State University has approximately 17,500 students. The Department of Computer Science has approximately 200 undergraduate majors and 100 M.S. students. Departmental lab facilities include both Microsoft Windows-based machines and Unix-based machines. For more information, visit web pages at www.bsu.edu and www.cs.bsu.edu.
Send letter of application; vita; and the names, addresses, and telephone numbers of three references to: Dr. Frank Owens, Computer Science Search Committee, Department of Computer Science, Ball State University, Muncie, IN 47306. Review of completed applications will begin immediately and will continue until the position is filled.
Ball State University is an equal opportunity, affirmative action employer and is strongly and actively committed to diversity within its community.

Boston University
Computer Science Department
Open Faculty Positions
Applications are invited for three tenure-track assistant professorships beginning September 2001. Appointments at other ranks will be considered in exceptional cases. Qualifications required of all applicants include, a PhD in Computer Science, a strong research record, and commitment to teaching.
All research areas of Computer Science will be considered. Particular attention will be given to candidates pursuing research in architecture, databases, programming languages, networking, operating systems, and security and applied cryptography.
Currently, the department consists of 16 faculty members, and offers programs leading to BA, MA, and PhD degrees. In the past two years, the department added six new faculty members whose research interests are in the core areas of vision, databases, networking, operating systems, and security. This adds to the department's established strength in analysis of algorithms, complexity theory, fault-tolerant computing, image and video computing, internetworking protocols and services, performance evaluation, programming languages, real-time systems, and theory of computation. In addition, our department maintains a close association with other university groups working on various applied computing areas.
The department maintains a state-of-the-art computing environment that includes hundreds of workstations, a number of dedicated multiprocessor servers, and a number of specialized research laboratories. In addition, the department has access to the university's supercomputing facilities, high-speed campus networks, national vBNS, and I2 internetworking. Recently, the university funded construction of new laboratories for research in distributed real-time systems, networks, and graphics. The department has been the recent recipient of significant government and industry grants for research, research infrastructure, and for graduate student support. We anticipate continuing this period of growth based on our recent successes and the continued strong support of the University.
Additional information on the department and this search is available from http://www.cs.bu.edu.
Qualified applicants should send a detailed resume and arrange for at least three references to be sent to:
 Faculty Search Committee
 Computer Science Department
 111 Cummington Street
 Boston University
 Boston, MA 02215
 Email: search2001@cs.bu.edu
Please include a cover letter stating the names of your references and your major area(s) of specialization. Please send inquiries or questions via email to search2001@cs.bu.edu.

Boston University is an Equal Opportunity/Affirmative Action employer. Minorities, persons with disabilities, and women are particularly encouraged to apply.

Brown University
Department of Computer Science
Computer Science Faculty Position
Applications are invited for a tenure-track assistant professor position In computer science commencing no later than September 1, 2001. Outstanding applicants are sought in all areas of computer science. Preference will be given to those candidates who best meet the teaching and research needs of the department. Candidates must have completed all the requirements for the doctoral degree by no later than September 1, 2001. The initial appointment will be for three years and is renewable.
Successful applicants will find at Brown a stimulating environment conducive to professional growth. Brown has a strong department with a variety of interesting research projects in analysis of algorithms, artificial intelligence, combinatorial optimization, computational complexity, computational geometry, computer graphics, computer vision, concurrent data structures and architectures, constraint programming, database systems, data mining, e-commerce, graph drawing, information security, operating systems, parallel computation, programming environments, programming languages, robotics, scientific visualization and software engineering.
The Computer Science department maintains active collaborations with the Other departments at Brown including Applied Math, Brain Sciences, and Engineering.

Applicants should send a resume in hard copy and have at least three Referees send letters of recommendation to:
 Prof. Steven P. Reiss
 Dept. of Computer Science
 Brown University, Box 1910
 Providence, RI 02912
Inquiries may be addressed to: faculty_search@cs.brown.edu. All application materials must be received by January 15, 2001 for full consideration. Brown University is an equal opportunity/affirmative action employer and strongly encourages applications from women, minorities, and protected persons.

Bucknell University
Department of Computer Science
Applications are invited for one or more tenure track assistant/associate professor positions (with up to three years credit towards tenure) beginning in mid-August, 2001. A Ph.D. in Computer Science or Computer Engineering and evidence of commitment to excellence in teaching and research are required. Must have interest in participating in teaching and the ongoing development of one or more of the core curriculum areas of computer organization, programming languages, operating systems, and architecture as well as a research interest that builds on areas in the core. Excellent salary and fringe benefits.
Bucknell is a highly selective primarily undergraduate institution. The Department of Computer Science currently has eight full-time faculty. The programs are accredited by both ABET and CSAB. More information about the programs is found at http://www.eg.bucknell.edu/csci. The computing environment for instruction and research is based on 70 SUN Ultra 4 workstations.

Professional Opportunities

Applications will be considered as received and recruiting will continue until the positions are filled. Please send a resume, graduate transcript (photocopy acceptable), and names and addresses of three references to: Gary Haggard, Chair, Department of Computer Science, Bucknell University, Lewisburg, PA 17837.

Bucknell encourages applications from women and members of minority groups (EEO/AA).

Carnegie Mellon University
Department of Engineering and Public Policy

The Department of Engineering and Public Policy, has faculty openings for candidates with research interests that combine technical issues in CS or ECE with important issues in public policy. Joint appointments possible. Details at www.epp.cmu.edu. Resumes, papers, and references to Granger Morgan, EPP, Carnegie Mellon, Pittsburgh, PA 15213.

Carnegie Mellon University is an equal opportunity employer.

Clemson University
Department of Computer Science

Applications are invited for multiple positions at all ranks. Applicants for lecturer positions should hold the M.S. degree in computer science and provide evidence of a strong commitment to high quality undergraduate instruction. Applicants for the tenure-track positions (Assistant or Associate Professor) should hold the Ph.D. degree in computer science or a related field by the appointment date. Appointment at the Associate Professor level additionally requires evidence of significant accomplishment in teaching, research, and external funding. Areas of research preference include (but are not limited to) database, graphics, networking, operating systems, programming languages, software engineering, and visualization.

The Department has 21 faculty members, approximately 500 undergraduate majors, and 100 graduate students, and offers B.A., B.S., M.S., and Ph.D. degrees. The department also jointly administers a Masters in fine Arts and Computing degree with emphasis in computer animation and special effects. Clemson University is the land-grant university of South Carolina and has an enrollment of approximately 17,000. Clemson, S.C. is a small college town located on beautiful Lake Hartwell at the foothills of the Blue Ridge Mountains.

Applicants should send a curriculum vita and names of three references to the Faculty Search Committee, Department of Computer Science, Clemson University, Clemson, S.C., 29634-0974. Screening will begin August 15, 2000 and continue until the positions are filled.

Clemson University is an Equal Opportunity/Affirmative Action Employer.

Clemson University
Department of Electrical and Computer Engineering.

Applications are invited for faculty positions in the Computer Engineering area of the Department of Electrical and Computer Engineering. The Department has active research programs in wireless communications and signal processing, mechatronics, computational electromagnetics, solid-state device reliability, power systems, cluster-based computing, reconfigurable computing, and computer vision.While exceptional candidates at all levels and in all research areas related to computer engineering will be considered, there is particular interest in individuals who can serve as conduits for building interdisciplinary research teams in emerging areas at Clemson (e.g., bioinformatics, robotics/control, human-computer interaction, and computer simulation).

Candidates should hold a Ph.D. degree in Computer Engineering, Electrical Engineering, Computer Science, or a closely related field and should have high potential for establishing a sustained research program and quality teaching. The individual selected will be expected to contribute to both new and ongoing research programs at Clemson and to teach both undergraduate and graduate courses. A detailed description of the department is available at http://ece.clemson.edu.

Send resume and names and addresses of five references to Chair, Holcombe Department of Electrical and Computer Engineering, 105 Riggs Hall, Box 340915, Clemson University, Clemson, SC 29634-0915. Evaluation will begin October 1, 2000, and will continue until the positions are filled. Clemson University is an Equal Opportunity/Affirmative Action Employer.

College of Charleston
Department of Computer Science
Assistant Professor of Computer Science

The College of Charleston Department of Computer Science invites applicants for a new tenure-track position at the assistant professor level. The department is especially interested in adding faculty in the areas of networking and software architecture. A Ph.D. in computer science or software engineering is preferred (A.B.D. candidates will be considered). The successful candidate should demonstrate a commitment to quality undergraduate teaching, and show potential for sustained scholarly activity. The starting nine-month salary range is highly competitive. Startup money and space are also provided.

Review of applications will continue until position is filled. Please send your curriculum vitae, statement of teaching philosophy or teaching portfolio, and the names and e-mail addresses of three professional references to csdept@cs.cofc.edu via attachment or URL. If you prefer not to apply electronically, please mail your application to:
Dr. Christopher Starr, Chairman
Department of Computer Science
College of Charleston
66 George Street
Charleston, SC 29424

For more information see www.cs.cofc.edu. The College of Charleston is an Affirmative Action, Equal Opportunity Employer and welcomes applications from women and minorities.

Colorado State University
Department of Computer Science
Tenure-Track Faculty Positions

The Department of Computer Science at Colorado State University solicits applications for at least two tenure-track faculty positions, beginning Fall 2001. The appointments will be preferably made at the level of assistant professor, but appointment at a more senior level is also possible for candidates who can demonstrate a strong connection to ongoing department research. Applicants must have a Ph.D. in computer science, computer engineering, or a related field. Applicants will be expected to teach undergraduate and graduate courses, and they must demonstrate potential for excellence in research and teaching.

The Computer Science Department has 700 undergraduate majors and 80 graduate students enrolled in Master's and doctoral programs. The department currently has 17 tenure-track faculty, with strong research programs in artificial intelligence, software engineering, and parallel and distributed computation. Computer facilities are excellent, and there are ample opportunities for research collaborations with local industry. Colorado State University, with an enrollment of 22,000 students, is located in Fort Collins, Colorado, an attractive community of over 100,000 people, at the base of the Front Range of the Rocky Mountains, 65 miles north of Denver. The northern Front Range offers a wide range of outdoor recreational activities. More information about the department and its research programs can be obtained from the department's home page at: http://www.cs.colostate.edu.

Applicants should send a curriculum vitae and letters from at least three professional references to: Faculty Search Committee, Computer Science Department, Colorado State University, Fort Collins, CO 80523. Please include a statement indicating how your background and interests match the expectations of the position(s) described above. The department's telephone number is 970-491-5862, and email inquiries should be directed to faculty-search@cs.colostate.edu. Screening of applications will begin November 1, 2000, and continue until the position is filled.

Colorado State University is an EEO/AA employer. Office of Equal Opportunity: 101 Student Services.

Cornell University
Operations Research and Industrial Engineering
Tenure-track or tenured position in data mining

Rank open. PhD in statistics, OR, CS, or related discipline required.

Job description: develop courses in data mining and interact with industry and statisticians across campus. Excellence in research required. Research specialty open. Send a c.v. with supporting materials and arrange for four letters of recommendation to be sent to:
Statistics Search Committee
School of ORIE
Rhodes Hall
Cornell University
Ithaca, NY 14853
Applications completed by January 15, 2001 given preference. Women and minority candidates especially encouraged to apply. Affirmative action/equal opportunity employer.
http://www.orie.cornell.edu

DePaul University
The School of Computer Science, Telecommunications and Information Systems (CTI) of DePaul University invites applications for multiple tenure-track positions beginning September 2001. We welcome applications from outstanding applicants in all areas of specialization. CTI is a young and growing school in downtown Chicago, with a wide range of degree programs. B.S. programs include Computer Science, Computer Graphics and Animation, E-Commerce Technology, Human-Computer Interaction, Information Systems, and Network Technology. M.S. programs include Computer Science, Distributed Systems, E-Commerce Technology, Human-Computer Interaction, Information Systems, Management Information Systems, Software Engineering, and Telecommunication Systems. CTI also offers a Ph.D. program in Computer Science. CTI currently has over 70 full-time faculty and a student body growing at a rate of approximately 30% per year. By bridging faculty from several areas of computing and information technology and by placing them in the Loop — the heart of Chicago's business and financial district — DePaul has established a unique, dynamic, and entrepreneurial school. CTI rewards excellent teaching, provides strong support for research, and encourages creative applied scholarship. Because DePaul

draws students of many backgrounds and cultures from a diverse urban setting, CTI is interested in recruiting and maintaining a diverse collection of faculty. Members of all underrepresented groups, women, veterans, and persons with disabilities are invited and encouraged to apply.

Computer Science faculty are actively pursuing research in a wide variety of areas, including artificial intelligence, computational complexity, computer vision, intelligent agents, databases, distributed computing, foundations of programming languages, graphics and human computer interaction, parallel and distributed algorithms, quantum computation, software engineering and software reliability.

Telecommunications faculty are actively pursuing research in performance analysis of data networks, techniques for providing differentiated quality of service to Internet applications, formal methods in protocol development, simulation tools for network education, and distributed multimedia systems.

Information Systems faculty are actively pursuing research in electronic commerce, technology-supported learning, group support systems, collaborative systems design, and IT strategy.

Candidates should have a Ph.D. in a relevant field by the date of appointment. To apply, complete the online application form and send a curriculum vita, a research statement, a teaching statement and at least three letters of reference to:
Michelle Marchant
School of Computer Science, Telecommunications and Information Systems
DePaul University
243 South Wabash Avenue
Chicago, IL 60604-2301
E-mail: faculty_search@cs.depaul.edu.
Electronic submission of documents is encouraged. Applications will be accepted until positions are filled.

DePaul University is committed to equality in educational and employment opportunities.

Director of Technical Application Architecture
Hartford, CT/ Springfield, MA

The Director of Application Architecture (DAA) will be the lead architect and designer for all enterprise-wide applications. He/She will manage the reuse of software components and establish an organizational Architectural Reference Model for solution-based development. The technical focus will be on OOA/OOD.OOP. We are seeking a technical leader with a minimum 10 years of IT experience. (Ph.D., preferred)

This position will be responsible for representing the firm's technical approach and vision to clients and to groups at industry forums. The DAA will lead in mentoring and educating staff and publishing white papers. He/She will serve as the firm's lead e-solutions scientist, driving consistency in technical solutions and establishing preferred platform choices relative to ecommerce and Internet applications.

A Ph.D. in a related discipline is strongly preferred but all candidates with appropriate experience will be considered. The company is a $65mm NASDAQ traded IT Solution Services company. The position reports directly to the CTO with no staff responsibility.

We offer a competitive compensation package, which includes an equity component and a comprehensive benefits program.

Mr. George D. Gilmartin TMP Executive Search Reference #SU2001 Phone 212-973-7537 george.gilmartin@tmpsearch.com

Duke University
Department of Computer Science

We invite applications and nominations for one or more tenure-track or tenured faculty positions at all ranks in the Department of Computer Science at Duke University, to start September 2001. Preference will be given to applicants in the areas of artificial intelligence and systems.

Our AI faculty is a small but active and distinguished group. Current research activity includes automated reasoning, deductive databases, dialogue systems, natural language understanding, planning, reinforcement learning, and robotics. Associated work at Duke includes cognitive neuroscience, computational biology and genomics. We welcome research interest in all areas, in particular those associated with robotics, numerical/statistical approaches to AI, cognitive neuroscience or biological applications of AI.

In experimental systems, we continue to build upon an already strong, highly collaborative group. We are broadly interested in all areas of experimental systems including high-speed networking, Internet environments and services, mobile computing, databases and large-scale storage, computer architecture, parallel and distributed systems, compilers and programming languages, digital libraries and data mining, and operating systems. This search is subject to budgetary approval.

Professional Opportunities

CORNELL UNIVERSITY
DEPARTMENT OF COMPUTER SCIENCE

Tenure-Track Positions, All Levels (Ref: AP#1)

Applications are invited for tenure-track positions. These positions are at the assistant, associate, or full professor level depending on experience. Applicants should have a Ph.D. in computer science or in a closely related field. The department requires demonstrated research accomplishment at the highest level as well as outstanding teaching ability and leadership qualities. Candidates should be enthusiastic about the central role that computer science can play on the campus of a large research university. We are an expanding department with seven new faculty hires during the past two years and are part of a new administrative structure on campus that promotes interdisciplinary research and teaching in the computing and information sciences.

The Department of Computer Science at Cornell University encompasses a wide range of research areas, including artificial intelligence, concurrency and distributed computing, databases, algorithms, information organization and retrieval, multimedia systems, applied logic and semantics, numerical analysis and scientific computing, theory of computation, programming languages and methodology, computer vision, computational biology, graphics, theory, networks, operating systems, and natural language processing.

Although we are especially interested in networks, databases, digital libraries, graphics, systems, and computational biology and bioinformatics, applicants in all areas of computer science will be thoroughly considered.

Research (Ref: RES#3)

Also available: research associate positions in scientific computing, databases, and software systems.

Further information about the department is available on the World Wide Web at URL: http://www.cs.cornell.edu/ Applicants should submit a vita and the names of at least three references to:

Chair, Faculty Recruiting Committee
Department of Computer Science
4130 Upson Hall
Cornell University
Ithaca, NY 14853-7501

Please include reference number with application.

CORNELL
U N I V E R S I T Y

Cornell University is an Affirmative Action/Equal Opportunity Employer and Educator and welcomes applications from women and ethnic minorities.

http://www.cornell.edu

This (or these) faculty hire(s) will be in a position to help guide and influence the continued expansion of our vibrant and growing Department. For more information about the faculty, facilities and other resources, please refer to www.cs.duke.edu

Applications should be submitted in hard copy or via email with PDF attachments. Applications will include a curriculum vitae, a list of publications, and copies of the most important publications. A Ph.D. in computer science or related area is required. Applicants should arrange for at least four letters of reference to be sent directly to the Faculty Search Chair. To guarantee full consideration, applications and letters of reference should be received no later than January 15, 2001.

Send all information to:
Faculty Search Chair
Department of Computer Science
Duke University
Durham, NC 27708-0129
facsearch@cs.duke.edu
Duke University is an affirmative action, equal opportunity employer.

Embry-Riddle Aeronautical University
Computer Engineering
Tenure-Track Assistant Professor Position
The Department of Computing and Mathematics at Embry-Riddle Aeronautical University invites applicants for a Assistant Professorship in Computer Engineering.
Available beginning August 2001. Candidates must have a Ph.D. in computer engineering or an MS in computer engineering with a Ph.D. in a closely related field. Candidates for this position should be able to teach a broad range of undergraduate courses in support of our undergraduate program in computer engineering.. Preference will be given to candidates with an interest in embedded systems design, computer interfacing, and/or software/hardware co-design. An interest in and a potential for developing research is expected.
To learn more about Embry-Riddle and the department, please visit our websites:
http://db.erau.edu
http://computing.erau.edu
Either send or email or fax a resume, a statement of professional accomplishments, a vision statement about what you wish to accomplish over the next three years, either a list of three references which include phone numbers and email addresses, or have three letters of reference sent to the following address:

Charles J. Martin, Ph.D.
Chair, Search Committee, Department of Computing and Mathematics
C/o Human Resources
Embry-Riddle Aeronautical University
600 South Clyde Morris Blvd.,
Daytona Beach, Fl 32114-3900
Email: lovee@db.erau.edu
FAX: 904-226-6137
Embry-Riddle Aeronautical University is an Equal Opportunity Employer.

Embry-Riddle Aeronautical University
Department of Computing and Mathematics
Chair
The Department of Computing and Mathematics of Embry-Riddle Aeronautical University in Daytona Beach, Florida invites applications and nominations for the position of Chair of the Department.
Candidates will have an established scholarly and academic record appropriate to a senior faculty member and will be experienced in academic administrative activities. A Ph.D. in a field of computing or a closely related field with academic credentials that would qualify for appointment to a Professorship is required. The duties and responsibilities of this position include department governance, instruction, faculty affairs, budgetary and department management, professional development of the faculty, and external outreach and communication. An Associate Chair and Administrative Assistant assist the Chair in the day to day operational activities.
We seek a chair who is a motivator and a visionary. The ideal candidate should be committed to teamwork, to meaningful performance planning and to strategic planning. The department has established a strategic plan and a growing applied research program. Because of the diversity of our department, the ideal candidate should be committed to quality teaching, service and applied research. It is expected that the chair will continue to foster an environment that recognizes and rewards each of these contributions. For additional details about the position, please see http://computing.db.erau.edu
Send, mail, or fax applications or nominations, along with curriculum vitae, a statement of professional accomplishments and vision for the future, plus a list of three references with phone numbers an e-mail addresses to:

Chair, Search Committee
Department of Computing and Mathematics
C/o Human Resources
Embry-Riddle Aeronautical University
600 South Clyde Morris Blvd
Daytona Beach, FL 32114-3900
Fax: 904-226-6137
Email: Lovee@db.erau.edu
Embry-Riddle Aeronautical University is an Equal Opportunity Employer

Embry-Riddle Aeronautical University
Computer Science
Tenure-Track Assistant Professor
The Department of Computing and Mathematics at Embry-Riddle Aeronautical University invites applicants for a Assistant Professorship in Computer Science.
Available beginning August 2001. Candidates must have a Ph.D. in computer science or an MS in computer science with a Ph.D. in a closely related field. Candidates for this position should be able to teach a broad range of undergraduate courses in support of our undergraduate program in computer science and/or our graduate program in software engineering. Preference will be given to candidates experienced in the software development process or real-time safety critical systems. An interest in and a potential for developing research is expected.
To learn more about Embry-Riddle and the department, please visit our websites:
http://db.erau.edu
http://computing.erau.edu
Either send or email or fax a resume, a statement of professional accomplishments, a vision statement about what you wish to accomplish over the next three years, either a list of three references which include phone numbers and email addresses, or have three letters of reference sent to the following address:
Charles J. Martin, Ph.D.
Chair, Search Committee, Department of Computing and Mathematics
C/o Human Resources
Embry-Riddle Aeronautical University
600 South Clyde Morris Blvd.,
Daytona Beach, Fl 32114-3900
Email: lovee@db.erau.edu
FAX: 904-226-6137
Embry-Riddle Aeronautical University is an Equal Opportunity Employer.

Florida International University
School of Computer Science
Applications are invited for multiple tenure track faculty positions (at the level of Assistant and/or Associate Professor). A Ph.D. in computer science or related area is required. Candidates are sought in all areas of computer science. The School is currently strong in database, distributed computing, and software engineering.
Successful candidates must be committed to excellence in teaching at both the graduate and the undergraduate levels, as well as developing a high-quality research program. Our salary and benefits package is highly competitive.
The School of Computer Science is a designated program of excellence at the University and enjoys strong support of the university administration. Through its two Research Centers for High Performance Database Research, and for Advanced Distributed Systems Engineering the School has attracted substantial support from NASA and NSF together with considerable funding from Federal, State, and private agencies totaling over 2 million dollars annually. The School has 25 faculty members and offers B.S., M.S., and Ph.D. degrees in Computer Science. The current enrollment is approximately 700 undergraduate majors and 80 graduate students.
Applications, including a letter of interest, curriculum vita, e-mail address, and the names of three references, should be sent to Chairperson, Recruitment Committee, School of Computer Science, Florida International University, University Park, Miami, FL 33199. Applications must be postmarked no later than December 28, 2000. Further information including any change in the deadline to apply can be obtained from the School website http://www.cs.fiu.edu, from the sites of our Research Centers: http://hpdrc.cs.fiu.edu and http://cadse.cs.fiu.edu or by e-mail to recruit@cs.fiu.edu.
Florida International University is a member of the State University System of Florida and is an equal opportunity/affirmative action/equal access employer.

Florida State University
Department of Computer Science
Chair
The Florida State University invites applications for the position of Chair of the Department of Computer Science. The Florida State University is in a period of significant growth in Computer Science, having hired eight new faculty in the last two years, and is committed to an additional fifty percent growth over the next five years. We are seeking a senior faculty member to lead the

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Computer Science Department through this growth period to national prominence as a research institution. Already a federally recognized center of academic excellence, the Computer Science Department is well-positioned to reach this distinction, with a core of nationally and internationally distinguished researchers on faculty and an established and growing federal funding record.
This year the department added space and equipment for four laboratories of more than forty computer workstations and servers supporting their systems administration, network security, and cryptography research and curricula, further reflecting the commitment of the administration to departmental growth.
The ideal candidate will have demonstrated individual research excellence and success in leading a research effort in computer science or closely related field, resulting in significant federal funding and national visibility and influence. A commitment to high quality undergraduate and graduate education and research partnership must be evident. The chair position in the Computer Science department is a three year appointment, renewable for additional three year terms. Associated with an appointment of an outside chair would be a faculty appointment at the rank of Professor. After serving one or more terms as chair, the appointee would assume a full time professorship as a leading researcher in the department.
Florida State University (FSU) is an accredited Carnegie Research I University situated in Tallahassee, the capital city of Florida. FSU has built a reputation as a strong research institution in both the sciences and the humanities, with significant outside research funding from private foundations, industries, and government agencies.
Tallahassee, separated from the high tourist, high traffic areas of the Florida peninsula, enjoys a relaxed lifestyle that is a refreshing counterpoint to the urban bustle of south Florida. The climate is appealingly temperate, cooler in winter than points south, usually with a mild January of half a dozen frost-covered mornings. The university is a significant cultural center, with opportunities ranging from nationally acclaimed theater and music to athletics. Tallahassee is served by a modern airport and three major airlines.
Interested applicants should send a curriculum vitae and three references to:
Chair
Faculty Recruitment Committee
Computer Science Department
Room 203, James Jay Love Building
FSU
Tallahassee, FL, 32306-4530
For more information about the FSU Computer Science Department see our web page at http://www.cs.fsu.edu.
Florida State University is an Equal Opportunity/Affirmative Action employer, committed to diversity in hiring, and a Public Records Agency.

Florida Tech
Department of Computer Sciences
The Department of Computer Sciences at Florida Tech is searching for outstanding faculty members. Applicants must have a Ph.D. in computer science or a closely related field. Applications for all academic ranks are solicited. For full consideration applications should be received by 15 January 2001. Please send current curriculum vitae and the names of three references to:
Faculty Search Committee
Department of Computer Sciences
Florida Institute of Technology
150 W. University Blvd.
Melbourne, FL 32901.
We seek individuals who can become committed to advancing Florida Tech In several ways: enriching our Ph.D. program, increasing research funding, improving undergraduate education, and strengthening our master's program. The activities in the department and in the local area are conducive to research in software engineering, computer security, telecommunications, imaging, and autonomous control, just to mention a few.
Florida Tech is located in Melbourne, Florida on the Space Coast. The campus occupies 130 tropical acres, including a picturesque, 30-acre botanical garden. The campus is 5 minutes from the Indian River estuary, 10 minutes from the Atlantic Ocean and 50 minutes from Kennedy Space Center.
Florida Tech is an Equal Opportunity Employer Committed to Excellence Through Diversity

Georgia Institute of Technology
College of Computing
Tenure Track Faculty
Georgia Tech's College of Computing invites applications for tenure track faculty positions. We are primarily interested in entry level candidates but will consider exceptional individuals at all levels. With an academic faculty of 63, a research faculty of 19 and 4 postdoctoral fellows, the College has a current enrollment of 1375 undergraduates, 88 Masters students, and 200 Ph.D. students. The College

Professional Opportunities

has strengths in a broad range of areas and is ranked among the top computer science and information technology programs nationally. One of the College's missions is to interact significantly with other academic units, so candidates with an inter-disciplinary research focus and/or interest in potential joint appointments are welcome.

Preference will be given to applications received by December 22, 2000. Hardcopy applications, including a resume, names of at least three references, and any publications you'd like us to read, should be sent to:
Dr. Janet Kolodner, Chair
Faculty Search Committee
College of Computing
Georgia Institute of Technology
Atlanta, GA 30332-0280
Phone: (404) 894-8387
Fax: (404) 894-9846
In addition, please email a URL pointing to your on-line resume and publications.
Email: recruiting@cc.gatech.edu
Georgia Tech is an Affirmative Action/Equal Opportunity Employer; applications from women and under-represented minorities are strongly encouraged.

Georgia State University
Department of Computer Science
The Department of Computer Science of Georgia State University invites applications for anticipated tenure-track positions for assistant or associate professor beginning the Fall semester, 2001. Earned Ph.D. in Computer Science, or a closely related discipline, and an excellent record in publications in computer science are required with preference for extra-mural funding. Preference is for individual with specialty in software engineering, graphics, human-computer interaction, operating systems, or algorithms. Departmental computing facilities for research and instruction include a departmental network of PCs, UNIX workstations, and a 24-processor Origin 2000 high-performance computer and five laboratories, one with ATM switches for network research and another for hypermedia and visualization research. The departmental computing facilities are supported by two full-time systems programmers.

Applicants should send a letter of application, vita without birthdate, but with citizenship status, and three letters of reference and transcripts of all graduate and undergraduate work to: Chair, Department of Computer Science, Georgia State University, University Plaza, Atlanta, Ga. 30303-3083 (or e-mail to: mfraser@cs.gsu.edu). Applications will be accepted until position is filled. Georgia State University is an EEO/AA institution.

Georgia State University
Department of Computer Science
Georgia State University anticipates a full-time Lecturer position (non-tenure track) in the Department of Computer Science. Applicants must possess an M.S., or higher degree, in computer science or a closely related discipline, quality teaching experience and a record of scholarly achievement commensurate with the stage of the candidate's career. The successful candidate will have instructional and departmental service responsibilities. Applicants must include a curriculum vita, evidence of teaching effectiveness and three letters of reference and be sent to Search Committee Chair, Department of Computer Science, Georgia State University, University Plaza, Atlanta, GA 30303-3083. The position will remain open until filled. Georgia State University is an EEO/AA institution.

Grinnell College
Department of Mathematics and Computer Science
Assistant or Associate Professor of Computer Science
Tenure-track position as Assistant or Associate Professor of Computer Science in the Department of Mathematics and Computer Science starting Fall, 2001. Ph.D. in computer science expected, with academic rank depending on experience (ABD considered as Instructor). Department seeks outstanding teacher-scholar, with no preference regarding specialty.

Grinnell College, a highly selective liberal arts college, is committed to student-faculty research and is generous in its support of scholarship. To apply, send a curriculum vitae, transcripts (copies acceptable), three letters of recommendation, and a statement describing your interest in teaching and research in an undergraduate liberal arts environment that emphasizes close faculty-student interaction.
Address applications to:
Computer Science Search Committee
Department of Mathematics and Computer Science
Grinnell College
Grinnell, IA 50112
or fax 515-269-4984.
For more information, see http://www.cs.grinnell.edu/2000-cs.html, or send e-mail to cs-search@cs.grinnell.edu. Review of

applications will begin November 1, 2000 and continue until the position is filled.
Grinnell College is an equal opportunity/affirmative action employer committed to employing a highly qualified staff which reflects the diversity of the nation. No applicant shall be discriminated against on the basis of race, national or ethnic origin, age, gender, sexual orientation, marital status, religion, creed or disability.

Harvard University
Computer Science
Lectureship on Computer Science
Applications and nominations are invited for a Lectureship on Computer Science to work with faculty in teaching introductory courses in computer science. Candidates should be outstanding teachers of computer science with extensive experience in classroom instruction and a record of creativity and achievement in teaching and curriculum development.

Details of the position will be tailored according to the strengths of the successful candidate but would include activities such as curriculum development, lecturing, course administration, and supervision of section leaders. The Lecturer would be involved in introductory programming and theory courses each semester, working individually and with other members of the faculty.

The position will begin as early as the 2000-01 academic year and offers an opportunity to work with outstanding students in excellent teaching facilities housed in a recently completed new building. Lecturer positions are annual appointments, renewable for up to three years. Applicants must have a Ph.D. in Computer Science or a related discipline.

Information about Harvard's current faculty, research, and educational programs in the Division of Engineering and Applied Sciences, which includes the computer science program, is available at http://www.deas.harvard.edu/.

Candidates should send a curriculum vitae and a statement of teaching experience and interests, and should also arrange to have at least three letters of reference sent to:
CS Lectureship Search Committee
Division of Engineering and Applied Sciences
Harvard University
Maxwell Dworkin 247
33 Oxford Street
Cambridge, MA 02138
Harvard is an Equal Opportunity/Affirmative Action employer and encourages applications from women and members of minority groups.

Applications will be reviewed as they are received. Early application is advised.

Harvard University
Computer Science
Over the last three years, Harvard's computer science faculty has added four junior and two senior faculty and moved to Maxwell Dworkin, a new building with excellent teaching and research facilities. These changes mark the beginning of a period of extensive growth of the faculty, with a corresponding increase in the size of the graduate program. The computer science program benefits from its outstanding undergraduate and graduate students, an excellent location, significant industrial support, and substantial support from the Division of Engineering and Applied Sciences.

We are currently inviting applications and nominations for a tenure-track faculty position in Computer Science, at the level of Assistant Professor, to begin in the fall of 2001. We are seeking candidates with interests in the broadly-construed area of computer systems including databases, programming languages, and embedded and low-power systems.

Candidates should have an outstanding research record and a strong commitment to undergraduate teaching and graduate training. Applicants must have completed a Ph.D. by September 1, 2001.

Information about Harvard's current faculty, research, and educational programs is available at http://www.deas.harvard.edu/graduate/computer_science.

Candidates should send a curriculum vitae, a list of publications, and a statement of research and teaching interests, and should also arrange to have at least three letters of reference sent to:
CS Search Committee
Division of Engineering and Applied Sciences
Maxwell Dworkin 327
33 Oxford Street
Cambridge, MA 02138
Applicants may, in addition, include up to three papers representative of their research.
Harvard is an Equal Opportunity/Affirmative Action employer and encourages applications from women and members of minority groups.

Applications will be reviewed as they are received. For full consideration, applications should be received by January 31, 2001.

Harvey Mudd College
Department of Computer Science
Assistant Professor
(http://www.cs.hmc.edu)
The Computer Science Department of Harvey Mudd College intends to appoint a tenure-track Assistant Professor of Computer Science, to start 1 July 2001 (classes begin about 1 September). Applicants for one-year visiting appointments or partial appointments (such as sabbatical visitors) will also be considered. We are most interested in applicants with strengths in one or more of the following areas: software architecture, distributed systems, networking, and databases, although strong candidates in other areas will also be considered.

The successful candidate will have completed the PhD in Computer Science by the time of appointment, and is expected to devote attention to excellence in teaching, as well as to the development of a research program involving undergraduates.

Harvey Mudd College is a highly-selective undergraduate college (680 students) emphasizing science, mathematics, and engineering. It is a member of the geographically-contiguous Claremont Consortium in Southern California, which collectively provides the equivalent of a small university environment in a pleasant residential community.

The Computer Science Department is well-equipped and offers a wide array of courses in both foundations and advanced topics in computer science. Qualified students engage in research and publication with faculty members. The department's Computer Science Clinic provides a strong link to the industrial community in the form of year-long student projects. The normal teaching load is two courses per semester, plus supervision of Clinic and research projects.

Applicants should respond with a curriculum vitae, a statement regarding teaching and research philosophy or plan, and supporting materials such as reprints. Concurrently, please ask three references to write to us directly. Email applications and reference letters (plain text preferred) are accepted:
keller@cs.hmc.edu.
Professor Robert M. Keller, Chair
Computer Science Department
Harvey Mudd College
301 E. Twelfth Street
Claremont, CA 91711
Harvey Mudd College is an Equal Opportunity Employer. Applications from members of groups typically underrepresented in college computer science faculties are strongly encouraged.

Indiana University
Computer Science Department
Faculty Positions
The Indiana University Computer Science Department anticipates filling several tenure-track faculty positions beginning 2001-2002. Areas of interest are operating systems, distributed systems, networking, graphics and data-bases. In addition our new, privately endowed, IPCRES research center will be hiring several senior positions in the areas of distributed systems, networking, pervasive computing, security and graphics.

The CS department, which is part of the College of Arts and Sciences, is working cooperatively with our new School of Informatics, which offers a B.S. degree focusing on the application of information technology to various disciplines and has M.S. programs in Human Computer Interaction, and Bio and Chemical Informatics. Cross-appointments with Informatics are possible in computer science related areas such as data mining and search technologies.

A Ph.D. in Computer Science is required for all CS faculty positions. Applicants must have demonstrated potential for excellence and productivity in research. In addition, a strong contribution to the educational mission of the department is expected.

The department occupies a spacious limestone building with extensive state-of-the-art computing facilities. The attractive wooded campus of Indiana University is located in Bloomington, chosen as one of the most cultural and livable small cities in the US, and only one hour from the Indianapolis airport. To learn more about the department please visit our web site at www.cs.indiana.edu.
Please send a detailed CV and a list of references to:
Faculty Search
Computer Science Department
Indiana University
Lindley Hall 215
Bloomington, IN 47405-7104
email: search@cs.indiana.edu
Indiana University is an Equal Opportunity/Affirmative Action Employer. The Computer Science Department strongly encourages applications from women and minorities.

Iowa State University
Department of Computer Science
Department Chair and Professor
The Department of Computer Science at Iowa State University invites applications and nominations for the position of Department Chair and Professor, with a proposed starting date of July 1, 2001. Candidates are expected to have a Ph.D. in computer science or a related field, a strong commitment to excellence in undergraduate and graduate education, a distinguished and ongoing program of funded research in computer science, and demonstrable leadership skills.

The department currently consists of 21 tenure-track faculty and offers B.S., M.S., and Ph.D. programs to approximately 750 undergraduate majors and 110 graduate students. The faculty has successful, funded research programs in several theoretical, experimental, and interdisciplinary areas of computer science. Further information on the department is available at http://www.cs.iastate.edu.

The department has hired four tenure-track faculty in the past year, and continued growth is a high priority of the college and university. The successful candidate will have the opportunity to lead a dynamic and growing department with strong ties to other science and engineering departments and laboratories on campus. Salary will be competitive and commensurate with qualifications.

Applicants should send their curriculum vitae and the names, addresses, e-mail addresses, and telephone numbers of at least four references to DEO Search Committee, Department of Computer Science, 226 Atanasoff Hall, Iowa State University, Ames, IA 50011-1040. Review of applications will begin on October 15 and continue until the position is filled.
Iowa State University is an Equal Opportunity/Affirmative Action employer. Women and minorities are particularly encouraged to apply.

Miami University
Computer Science and Systems Analysis Department
The Department of Computer Science and Systems Analysis of Miami University invites applications for one or more tenure track positions. We are primarily seeking entry-level applicants to begin at the rank of Assistant Professor, but will consider applicants qualified for higher ranks. A Ph.D. in computer science

Professional Opportunities

or a related discipline is required; industrial experience and teaching experience are desirable. Duties will include teaching undergraduate and graduate courses, maintaining an active research program, and departmental service. Any area of specialty will be considered, but applicants with research interests in networking, database systems, or software engineering are desired.

Miami University, located 35 miles north of Cincinnati, has 15,000 undergraduate and 1,800 graduate students. Miami was selected in the past few years among the top 10 schools in undergraduate education. The Computer Science and Systems Analysis Department offers baccalaureate and master degrees, and was one of two computer science departments without Ph.D. programs cited in the top 100 departments in research quality and productivity. See http://www.eas.muohio.edu/san/ for more information. Send resume, three letters of reference, and visa status, if applicable, to: Alton F. Sanders, Computer Science and Systems Analysis Dept., Miami University, Oxford, OH 45056. (Phone: 513-529-5935, Fax: 513-529-1524, Email: sanderaf@MUOhio.edu) Review of applications will begin January 15, 2001 and will continue until the positions are filled. We encourage applications from a broad spectrum of individuals, including women and members of ethnic minorities. Miami is an EO/AA employer.

Michigan State University
Department of Computer Science and Engineering

Michigan State University invites nominations and applications for the position of Chair of the Department of Computer Science & Engineering in the College of Engineering, with a starting date of July 1, 2001. The Department has twenty-seven faculty with a strong commitment to research, teaching and service. Annual research expenditures are approximately 3M dollars. The Department takes pride in providing a small class atmosphere to its majors and most service course students. Strengths are in the areas of pattern recognition and computer vision; parallel and distributed computing; intelligent systems and machine learning; high-speed networks and performance evaluation; software engineering and formal methods; autonomous robotics; and database and multimedia systems. The Department attracts excellent Ph.D. students, all of whom are supported as fellows or graduate assistants. The current enrollment is 150 full-time graduate students (70 Ph.D. / 80 M.S.) and 600 undergraduate students. Faculty are served by a variety of computing resources within the Department, College, and University. The Department manages its own computing facilities of about 300 workstations, and much larger College facilities are shared

with six other departments. The BS Computer Engineering Program is jointly administered with the Department of Electrical and Computer Engineering.

Michigan State University enjoys a park-like campus of over 2000 developed acres. The campus is adjacent to the cities of East Lansing and Lansing. The Greater Lansing area has approximately 250,000 residents. The communities have fine school systems and place a high value on education.

The Chair of the Department of Computer Science & Engineering must promote the development of a shared vision of academic excellence within the Department, and must represent the Department to the academic community, industry and government. The Chair must take an active role in faculty development and work with faculty across the Department and University to identify and pursue innovations in teaching, research, and outreach and will lead the Department in the strategic planning for the future that is currently in progress. The Chair is also responsible for promoting cultural diversity throughout the Department.

Candidates must be qualified to receive an appointment at the rank of tenured Full Professor. This is an annual (12 month) appointment. Candidates must have a strong teaching record and have a record of outstanding research with broad-based funding. Candidates must provide evidence of scientific and organizational leadership, educational innovation, and administrative effectiveness. Applications received before January 8, 2001 will receive full consideration. Please submit a curriculum vita, email address, and the names and contact information (including address, email, fax and phone numbers) of at least five references to:

Chair, Search Committee
Department of Computer Science & Engineering
3115 Engineering Building
Michigan State University
East Lansing, Michigan 48824-1226
chair-search@cse.msu.edu
Additional information about this position may be obtained by sending email to: chair-search@cse.msu.edu and by visiting http://www.cps.msu.edu/

Michigan State University is an Equal Opportunity/ Affirmative Action Institution and encourages applications from women and members of ethnic minority groups.

National Center for Atmospheric Research, Boulder, Colorado

NCAR invites you to be an important part of our mission and to help shape our future!

If you are a Ph.D. computer scientist who would like to begin a challenging career associated with world-leading research in atmospheric science, this opportunity may appeal to you.

The National Center for Atmospheric Research (NCAR) in Boulder, Colorado, will create as many as four new positions for entry-level scientists in any scientific area relevant to our program. We specifically invite applications from those interested in research in scientific computing, computer science, and information technology, along with those whose background is in atmospheric science, solar physics, and environmental, societal, and policy issues related to atmospheric processes. Applicants will be evaluated based on their accomplishments and their potential to become leaders in areas relevant to NCAR's mission.

Managed by the non-profit University Corporation for Atmospheric Research (UCAR), NCAR provides the university research and teaching community with tools such as supercomputer access, computer models, and observing facilities. NCAR and university scientists collaborate in research involving atmospheric chemistry, climate, atmospheric dynamics, mesoscale weather systems, cloud physics and storms, weather hazards to aviation, solar physics, interactions between the sun and earth, and the implications of climate change and of severe weather for public policy.

NCAR offers excellent benefits: Health, life, dental, and vision insurance; retirement plan (10% UCAR contribution toward retirement); free regional bus transportation; flexible work options; a casual environment; exercise centers and classes; and on-site cafeterias, among others.

For a complete job description access: http://www.fin.ucar.edu/hr/employment/0173.html. Initial consideration will be given to applications received prior to November 1, 2000, but applications will be accepted until the positions are filled. To apply online: http://recruiter1.webhire.com/ucar.ncar (source code 0173-cra). Email ucar.ncar@rpc.webhire.com, or send a resume to UCAR Job #0173-cra, 3450 Mitchell Lane, Boulder, CO 80301. UCAR is an Equal Opportunity/ Affirmative Action Employer. UCAR believes the strength of a corporation lies in the diversity of its people and how they can contribute to the success and mission of the organization.

New York University
Department of Computer Science

The department expects to have several regular faculty positions beginning in September 2001 and invites candidates at all levels. We are particularly interested in areas pertaining to the increasing connectivity and pervasiveness of computing devices, including: interfaces (natural language, graphics, vision), educational systems, security, e-commerce, data mining, mobile and autonomous computing, web-related systems, distributed systems, real-time systems and verification. We will also consider outstanding candidates in other areas. Faculty members are expected to develop an independent first-rate research program and to participate in teaching at all levels from the undergraduate to the doctoral. The new appointees will be offered highly competitive salaries, competitive startup packages, and low-cost university housing within short walking distance of the department. New York University is located in Greenwich Village, one of the most attractive residential areas of Manhattan. The department may also have one or more visiting positions, with appointments for either one or two semesters.

The department has 26 regular faculty members and several adjunct, clinical, research, and visiting faculty members. Current strengths of the department lie in algorithms, compilers and programming languages, computational biology, computer graphics, computer vision and image processing, distributed and parallel computing, multimedia, natural language processing, scientific computing, and verification. There are specialized laboratories and research facilities for computer graphics and multimedia, computer vision, and parallel and distributed computing. Collaborative research with industry is facilitated by the geographic proximity to the main research centers of AT&T, BellCore, IBM, Lucent, Matsushita, NEC, and Siemens.

Applications should include a resume, a statement of career objectives, key publications, and names of references, at least three for junior positions and at least five for senior positions. Applicants are encouraged to provide a URL for a description of their activities. To guarantee full consideration, applications should be received no later than Jan. 8, 2001; however, this is not a hard deadline as all candidates will be considered to the extent feasible, until all positions are filled.

Adjunct Faculty Position

The Computer Science Department has continuing part-time opportunities for adjunct faculty to teach at all levels of its programs. The department invites candidates to apply to teach in its non-major program; it is also very interested in candidates with industrial experience for upper level undergraduate and master courses. There are openings in all semesters: fall, spring and summer.

Applicants should include a resume and

the names of several references and indicate courses they would be interested in teaching. Evidence of teaching experience is significant.

Please send applications to:
c/o Shanta Stroud
Faculty Search
Department of Computer Science
New York University
251 Mercer Street
New York, NY 10012-1185
New York University is an equal opportunity/affirmative action employer.

Northeastern University
College of Computer Science
Tenure-track faculty positions

The College of Computer Science invites applications for one or more tenure-track faculty positions at the Assistant or Associate Professor level beginning in Spring or Fall 2001. Candidates will be considered from all major disciplines of computer science. A Ph.D. in computer science or related field is required.

The College of Computer Science of Northeastern University maintains a strong research program with significant funding from the major federal research agencies and private industry. It has particular strengths in programming languages and software engineering, distributed computing, cryptography and networks, databases, and artificial intelligence.

The College has a diverse full-time faculty of 21, with approximately 500 undergraduates, 150 Masters students and 35 Ph.D. students. In addition to these degrees in Computer Science, the College offers an innovative B.S. program in Information Science, combining traditional computer science with relevant material from business and the social sciences in an integrated program that focuses on the interaction between information, computers, and people.

Located on the Avenue of the Arts in Boston's historic Back Bay, the College takes advantage of its location to foster collaborations with other institutions in the greater Boston area.

Please send a resume, statement of research interests, and three letters of recommendation to: Faculty Hiring Committee; College of Computer Science; 161 Cullinane Hall; Northeastern University; Boston, Massachusetts 02115. Screening of applications will start immediately and will continue until the search is complete. For further information, send e-mail to hiring@ccs.neu.edu or see http://www.ccs.neu.edu/hiring. Electronic submission of documents is encouraged; see the web page for details.

Northeastern University is an Equal Opportunity/Affirmative Action Employer. We strongly encourage applications from women and minorities.

Northeastern University
College of Computer Science
Trustee Professorship in Computer Science

The College of Computer Science invites applications and nominations for the position of Trustee Professor of Computer Science. This position is one of the first endowed chairs to be recruited in a longer range program to add a total of eight endowed Trustee Professorships throughout the University.

We seek renowned scholars who have achieved national and international distinction in the field of computer science. It is expected that applicants will possess an established record of scholarship, effective teaching and external research funding. The ability to interact with industrial partners and the potential to provide leadership in research are essential.

The College of Computer Science of Northeastern University maintains a strong research program with significant funding from the major federal research agencies and private industry. It has particular strengths in programming languages and software engineering, distributed computing, cryptography and networks, databases, and artificial intelligence.

The College has a diverse full-time faculty of 21, with approximately 500 undergraduates, 150 Masters students and 35 Ph.D. students. In addition to these degrees in Computer Science, the College offers an innovative B.S. program in Information Science, combining traditional computer science with relevant material from business and the social sciences in an integrated program that focuses on the interaction between information, computers, and people.

Located on the Avenue of the Arts in Boston's historic Back Bay, the College takes advantage of its location to foster collaborations with other institutions in the greater Boston area.

Please send a resume, statement of research interests, and the names of referees to: Faculty Hiring Committee; College of Computer Science; 161 Cullinane Hall; Northeastern University; Boston, Massachusetts 02115. Screening of applications begins immediately and will continue until the position is filled.

Professional Opportunities

For further information, send e-mail to hiring@ccs.neu.edu or see http://www.ccs.neu.edu/hiring.

The College also invites applications for one or more tenure-track faculty positions in Computer Science and in Information Science at the Assistant or Associate Professor level beginning in Spring or Fall 2001. Candidates will be considered from all major disciplines of computer science. A Ph.D. in computer science or related field is required. See http://www.ccs.neu.edu/hiring for details and application procedures.

Northeastern University is an Equal Opportunity/Affirmative Action Employer. We strongly encourage applications from women and minorities.

Northeastern University
College of Computer Science
Faculty Position in Information Science

The College of Computer Science invites applications for a tenure-track faculty position at the Assistant or Associate Professor level beginning in Spring or Fall 2001. Candidates are particularly sought with research and/or teaching interests in information systems design and development; databases/data mining; human-computer interaction/CSCW, and organizational/social impacts of information technology. A Ph.D. in information science, information systems, computer science or a related field is required.

The College of Computer Science of Northeastern University maintains a strong research program with significant funding from the major federal research agencies and private industry. It has a diverse full-time faculty of 21, with approximately 500 undergraduates, 150 Masters students and 35 Ph.D. students. In addition to these degrees in Computer Science, the College offers an innovative B.S. program in Information Science, combining traditional computer science with relevant material from business and the social sciences in an integrated program that focuses on the interaction between information, computers, and people.

Located on the Avenue of the Arts in Boston's historic Back Bay, the College takes advantage of its location to foster collaborations with other institutions in the greater Boston area.

Please send a resume, statement of research interests, and three letters of recommendation to: Faculty Hiring Committee; College of Computer Science; 161 Cullinane Hall; Northeastern University; Boston, Massachusetts 02115. Screening of applications begins immediately and will continue until the search is completed. For further information, send e-mail to hiring@ccs.neu.edu or see http://www.ccs.neu.edu/hiring. Electronic submission of documents is encouraged; see the web page for details.

Northeastern University is an Equal Opportunity/Affirmative Action Employer. We strongly encourage applications from women and minorities.

Northern Illinois University
Department of Computer Science
Tenure track positions

The Department of Computer Science invites applications for anticipated tenure track positions. Applicants are sought in all areas, but software engineering, networking, or database experience is desirable. Candidates must have a Ph.D. in computer science or a closely related discipline and have a strong interest in both teaching and research. Remuneration and rank will be commensurate with qualifications and experience.

Interested candidates must submit vita to: Rodney Angotti, Chair, Department of Computer Science, Northern Illinois University, DeKalb, Illinois 60115; e-mail angotti@cs.niu.edu. Preference will be given to applications received by December 15, 2000 but applications will be accepted until the positions are filled.

Information about the department and Northern Illinois University can be obtained by consulting the department's home page, www.cs.niu.edu.

Northern Illinois University is an Equal Opportunity/Affirmative Action Employer.

Northern Michigan University (NMU)
Department of Mathematics and Computer Science

The Department of Mathematics and Computer Science at Northern Michigan University (NMU) invites applications for two tenure-track positions in Computer Science at the rank of Assistant Professor beginning with the 2001-2002 academic year.

NMU's computer science program is active and growing, offering the faculty continuing opportunities to:
• incorporate emerging technologies and paradigms into a progressive computer science curriculum and an innovative network computing curriculum;
• seek out synergistic relationships with other departments, universities and industry:

• establish undergraduate research projects and laboratories and
• help design and implement an interdisciplinary master's degree programs in computer science and operations research.

The successful applicant must possess a Ph.D. in Computer Science or closely related computing field prior to employment, be prepared to teach the range of courses in our undergraduate curriculum, and demonstrate the potential to become an active scholar and an effective and enthusiastic teacher. Applicants from all areas of computer science are encouraged to apply; however, preference will be given to applicants whose special interests are in one or more of the following areas: software engineering, object-oriented design, databases, real-time or embedded systems, network and computer security, mobile computing, networking and distributed systems, and discrete optimization. Additional desirable qualifications include prior teaching experience as well as a willingness to contribute to the development of our computer science and network computing programs and to involve undergraduates in ongoing research efforts.

Northern Michigan University, an Internet II sponsored participant, is a comprehensive institution of approximately 8,000 students located in the city of Marquette on the shore of Lake Superior. Marquette is a community of 24,000 and is the cultural, medical, and governmental center of Michigan's beautiful Upper Peninsula. The region offers unexcelled outdoor recreational opportunities in all seasons, and a very low cost of living.

Applications should include a complete resumé, a letter of application with statement of teaching philosophy, transcripts, and names, addresses (including e-mail), and telephone numbers of at least three references. Nominations are welcome and should be submitted as early as possible. Application materials should be sent to: Chair of the Computer Science Selection Committee, Department of Mathematics and Computer Science, Northern Michigan University, 1401 Presque Isle, Marquette, Michigan 49855-5340, (906) 227-2020. E-mail Address: math_cs@nmu.edu. For additional information see http://www.nmu.edu/. Applicant review will begin January 22, 2001, and will continue until the position is filled.

In compliance with the Jeanne Clery Act, crime statistics for Northern Michigan University may be obtained through the Campus Security Policy and Crime Statistics at http://publicsafety.nmu.edu/clery.htm. NMU is an equal opportunity, affirmative action employer and is strongly committed to increasing the diversity of its faculty.

Ohio State University
Department of Computer and Information Science

The Department of Computer and Information Science invites applications for at least eight tenured or tenure-track positions. Areas of primary interest include, but are not limited to, networking, database systems, human-computer interaction, artificial intelligence (including speech, vision, and language processing),graphics (including scientific visualization and computer animation), parallel and distributed computing (including operating systems and file systems, network-based computing, metacomputing, mobile computing, and scientific computing), and software engineering (including programming languages, component-based software, and formal methods).

Appointments at all ranks will be considered. Applicants for an assistant professor position should hold or be completing a Ph.D. in computer science or a closely related field, and have a commitment to excellent research and quality teaching. Applicants for a senior position should also demonstrate a strong record of external funding and impact on their field.

The department maintains active collaborative relationships with the Ohio Supercomputer Center, Advanced Computing Center for the Arts and Design, Cognitive Science Center, and many other centers and departments in the university.

To apply, please send a curriculum vita, along with a cover letter, by e-mail to:
fsearch@cis.ohio-state.edu
or by hardcopy to:
Chair, Faculty Search Committee
Department of Computer and Information Science
The Ohio State University
2015 Neil Avenue, DL395
Columbus, OH 43210-1277

Review of applications will begin immediately and will continue until the positions are filled. For additional information please see http://www.cis.ohio-state.edu.

The Ohio State University is an Equal Opportunity/Affirmative Action Employer. Qualified women, minorities, and individuals with disabilities are encouraged to apply.

Oregon Graduate Institute of Science and Technology
Department of Computer Science and Engineering
Faculty positions

The Department of Computer Science and Engineering invites applications for faculty positions at all levels. Our target areas include networking, distributed systems, mobile and embedded systems, real-time and reactive systems, security, computational science, bioinformatics, environmental informatics, medical informatics, databases and data mining, computer architecture, vision, robotics, and sensor fusion. In addition, we are interested in excellent candidates at all levels that complement and enhance our existing research in neural networks, human computer interfaces, spoken language systems, software engineering, applied formal methods, and verification of both hardware and software.

OGI is a private graduate school that conducts internationally acclaimed research and provides outstanding graduate and professional education in science and technology. OGI is located near Portland, Oregon, in the beautiful Pacific Northwest. Portland's thriving hi-tech community, extensive cultural amenities and spectacular natural wilderness combine to make the quality of life here extraordinary.

More information about our department can be found at http://www.cse.ogi.edu. To find out why Portland is a great place to live go to http://www.portland.citysearch.com.

To apply, send a brief description of research interests, the names of at least three references, and a curriculum vitae with a list of publications to: Chair, Recruiting Committee, Department of Computer Science and Engineering, Oregon Graduate Institute, 20000 NW Walker Road, Beaverton, Oregon 97006. E-mail: csedept@cse.ogi.edu.

OGI is an Equal Opportunity/Affirmative Action employer. We particularly welcome applications from women, minorities, and individuals with disabilities. Appointment is subject to the availability of funding.

Purdue University
Department of Computer Sciences

The Department of Computer Sciences at Purdue University invites applications for tenure-track positions beginning August 2001. Positions are available at the assistant professor level; senior positions will be considered for highly qualified applicants. Applications from outstanding candidates in all areas of computer science will be considered. Areas of particular interest include networking and distributed systems, security, graphics, and emerging areas of computing.

The Department of Computer Sciences offers a stimulating and nurturing academic environment. Thirty-three full-time faculty have research programs in analysis of algorithms, databases, distributed and parallel computing, geometric modeling and scientific visualization, information security, networking and operating systems, parallelizing compilers, programming languages, scientific computing, and software engineering. The department implements a strategic plan for future growth which is strongly supported by the higher administration. This plan includes a new building expected to be operational in 2004 to accommodate the significant growth in faculty size. Further information about the department is available at http://www.cs.purdue.edu.

Applicants should hold a Ph.D. in Computer Science, or a closely related discipline, and should be committed to excellence in teaching and have demonstrated strong potential for excellence in research. Salary and benefits are highly competitive. Special departmental and university initiatives are available for junior faculty. Candidates should send a curriculum vitae, a statement of career objectives, and names and contact information of at least three references to:
Chair, Faculty Search Committee
Department of Computer Sciences
Purdue University
West Lafayette, IN 47907-1398
Applications are being accepted now and will be considered until the positions are filled. Inquiries may be sent to personnel@cs.purdue.edu.

Purdue University is an Equal Opportunity/Affirmative Action employer. Woman and minorities are especially encouraged to apply.

Purdue University
School of Electrical and Computer Engineering

Purdue University School of Electrical and Computer Engineering seeks outstanding candidates in computer engineering for research and teaching in the following areas: artificial intelligence, compilers, computer graphics, computer architecture, computer networks, distributed computing, multimedia systems, operating systems, software engineering, VLSI and CAD. Strong candidates in all areas of computer engineering are encouraged to apply. Openings are for tenure-track faculty at all levels.

Send a resumé, including a statement of research and teaching interests and a list of at least three references, to: Head, School of Electrical and Computer Engineering, Purdue University, 1285 EE Building, West Lafayette, IN 47907-1285.

Applications will be considered as they are received. Purdue University is an Equal Opportunity/Affirmative Action employer.

Rice University
Computer Science and Engineering

The Department of Computer Science, the Department of Electrical and Computer Engineering, the Computer System Laboratory, the Center for High Performance Software, and the Center for Multimedia Communication at Rice University expect to have several positions in the areas of computer science and engineering available beginning in the academic year 2001-2002 and invite applications for faculty and research staff positions. We are interested in receiving applications for appointments to the tenure-track faculty at the rank of assistant professor (however, appointment as associate or full professor will be considered for exceptionally well qualified candidates), to the research faculty which may be at the rank of faculty fellow, senior faculty fellow, and distinguished faculty fellow (these are research positions), and to the research staff as a research scientist or as a postdoctoral research associate. We are especially interested in candidates with research experience in algorithms and complexity, artificial intelligence, bioinformatics, compilers, computer graphics, computer systems, database management systems, digital libraries, distributed and mobile computing, embedded systems, high-performance hardware, information retrieval, networks, programming languages, software engineering, and parallel computing. We will consider strong candidates in other areas as well.

Applicants should hold a Ph.D. degree or the equivalent in computer science or a related discipline or expect to complete such requirements prior to assuming an appointment. Strong evidence of a commitment to excellence both in research and teaching is required for a tenured or tenure-track appointment. Preference will be given to early applications.

The Departments of Computer Science and of Electrical and Computer Engineering share superb research facilities. NSF Educational Innovation and Research Infrastructure grants and DOE Center grants, along with major grants and contracts from both industrial organizations and government agencies, have enabled the departments to build parallel and multiprocessor systems laboratories, a large network of engineering workstations, an extensive local area network, a high-speed network test-bed, and access to scientific communities via NSF, NASA, and Department of Energy electronic networks. The Computer Systems Laboratory spans both departments and a broad range of computer systems areas. The Center for High Performance Software supports several major research projects and provides access to massively parallel computer systems located at several cooperating institutions. The Center for Multimedia Communication develops embedded systems, distributed systems, and network architectures for tetherless and multimedia communication applications through collaborative research efforts. Both departments and associated centers are located in the new Computational Engineering Building, along with the Departments of Computational and Applied Mathematics and Statistics.

Rice is a well-endowed private university with a strong reputation for academic excellence, particularly in undergraduate teaching. It attracts outstanding students nationally and internationally and provides a stimulating environment for research, teaching and joint projects with industry. Teaching loads are low to accommodate faculty research and faculty salaries are competitive.

Send a resume, a statement of research and teaching interests, as well as the names and addresses of at least three references to: Computer Science and Engineering Search Committee, Department of Computer Science MS 132, Rice University, P.O. Box 1892, Houston, Texas 77251-1892, before January 15, 2001. Please specify the position for which you are applying. For more information, see http://www.cs.rice.edu/ or call Iva Jean Jorgensen (713-348-3818) or send email to ivajean@rice.edu. Rice University is an Equal Opportunity/Affirmative Action employer.

Shippensburg University of Pennsylvania
Assistant Professor of Computer Science
August 2001

Qualifications: Ph.D. in computer science or related field, or completion of a Ph.D. in computer science or related field within two years to be considered on a contingent contract basis. The position requires a commitment to excellence in teaching and effective communication skills, as well as experience or potential in research and academic service.

Professional Opportunities

Candidates must demonstrate the ability to teach the undergraduate and graduate computer science courses offered by the department. The candidate's willingness to teach off-campus and evening courses will be considered.

The Department: The department has eight computer science faculty. We offer BS and MS degrees in computer science, and share an MS in Information Systems with our College of Business. We currently have 278 undergraduate majors, 45 Masters students and 30 MSIS students. In addition to a thorough curriculum, we offer our undergraduates a strong internship program with many local industrial partners. This program has provided about 50 paid internships per year. Our department is housed in a three-year-old building and has four computer classrooms, four traditional classrooms, and our own computer lab.

The Position: This is a tenure-track position and the primary responsibilities are to teach undergraduate and graduate computer science courses (a maximum of 24 credits per year), advise students, conduct research and contribute to the academic life of the department and the university. As Shippensburg is a teaching-centered institution, there are many unique opportunities to further your professional development, all of which count toward the "research" portion of the position. As a primarily undergraduate institution, there are opportunities for funded undergraduate research. In addition, every masters student is required to complete a research project with an advisor and, therefore, can further faculty research. Shippensburg University offers grant opportunities for supplies and stipends to further research, pedagogical interests and travel to relevant conferences. Also, the industrial connections made through our internship program offer consulting opportunities for our faculty.

Application: Candidates must submit copies of graduate and undergraduate transcripts, a statement of teaching philosophy, publications (if any), and three letters of recommendation from persons familiar with candidate's teaching. Incomplete applications and applications sent by e-mail will not be considered. Candidates will be judged on potential for teaching, research and university service. A demonstration of teaching effectiveness will be required as part of the interview. Review of applications will commence on December 1, 2000, and will continue until the position is filled.

Apply To:
Computer Science Selection Committee
Department of Mathematics and Computer Science
Shippensburg University
Shippensburg, PA 17257
Shippensburg University is committed to equal employment opportunity. Women, persons of color, veterans, and persons with disabilities are encouraged to apply.

Southern Polytechnic State University
Department of Computer Science
Applications are invited for several tenure-track positions starting August 13, 2001. Appointments will be at the Assistant and/or Associate Professor level. (One year visiting appointments could also be considered.) Applicants should have a Ph. D. in computer science, computer engineering, or a closely related field. Salaries are very competitive, commensurate with experience and rank, with a generous startup equipment and lab package. The positions are part of a strategic initiative by the State of Georgia to establish a center of excellence in embedded computing that will provide an international prominence in the design of broadband infrastructure systems, devices, and chips (http://www.gcatt.gatech.edu/yamacraw). Most desirable areas of interests are software engineering, real-time embedded computing with emphasis on personal devices, distributed and networked home/enterprise computing applications. Commitment to quality teaching, an interest in directing student theses/projects, commitment to service and scholarship, and ability to teach graduate courses in our MS programs are required. Preference will be given to applicants with a documented substantial scholarly record and ability to secure external funding.

Southern Poly's CS department computing facilities for research and instruction include a departmental network of PCs, UNIX workstations, and nine specialized laboratories. These include a networking lab, a real-time programming lab containing special development tools and target devices including a specially equipped model railroad, an embedded systems lab for hw/sw codesign, an embedded software lab with CAD tools, an usability lab for hypermedia and visualization research, and a software engineering lab equipped with state-of-the-art CASE tools and environments and a process handbook with all KPAs of a SEI's Sw-CMM level 2 organization. We do all first year programming classes in closed-labs. We are in the process of acquiring a high performance computing and image processing lab. A full-time lab manager, 1 and 1/2 full-time technicians and several part-time Systems Programmers support the

departmental computing facilities.

Southern Polytechnic is a state university in the University System of Georgia located approximately 15 miles north of Atlanta. Southern Poly is primarily a teaching institution with increasing activities in research, distance learning, and industrial projects. We value strongly capabilities for undergraduate research. The CS department, the largest dept. of the University with 800+ undergraduate and 300+ graduate students, offers BA, BS, and MS degrees in CS, the MS degree in Software Engineering, and certificates in Programming and Software Engineering.

Qualified applicants should send a letter of interest, vita including three references, and unofficial transcripts of all university-level work. Screening of applications begins December 1, 2000 and continues until the positions are filled. Please send applications to Dr. Becky Rutherfoord, chair search committee, Department of Computer Science, Southern Polytechnic State University, 1100 South Marietta Parkway, Marietta, GA 30060-2896. Internet: http://www.spsu.edu/cs/cs.html. Phone: 770-528-7406. Fax: 770-528-5511. Southern Polytechnic State University is an EEO/AA institution. Minorities and women are encouraged to apply.

Southern Methodist University
Department of Computer Science and Engineering
SMU invites nominations and applications for the position of Professor and Chair of its Computer Science and Engineering Department. Candidates must have an earned doctorate in Computer Science, Computer Engineering or a closely related field with strong credentials in the software engineering area. Applicants must have a strong record in teaching, research and scholarly activities, and demonstrated ability in obtaining sponsored research from government agencies and industry. The successful candidate must have excellent management and communication skills, a solid commitment to excellence in undergraduate and graduate education, and strongly committed to promote faculty research activities.

SMU is a private university dedicated to academic excellence. Located in Dallas, SMU maintains a moderate size of about 10,000 students. The Computer Science and Engineering Department resides within the School of Engineering and Applied Science. It presents a balanced program of research and education at all levels and offers BS, MS, and Ph.D. degrees. Faculty research concentrations are in computer arithmetic, computer networks, database systems, software engineering, natural language processing, operations research, and related areas. The department has more than 160 undergraduate students, 120 students in its traditional graduate programs, and about 160 graduate students in its popular Software Engineering program. Additional information is provided at: www.seas.smu.edu/cse. To learn more about the rich cultural environment of SMU, please see: www.smu.edu.

The Dallas/Fort Worth area, one of the top three high-tech industrial centers in the country, has the largest concentration of telecommunications corporations in the US; providing an ideal supportive environment for rapid growth and the development of active collaborative relations with industry. The appointee is expected to significantly foster and increase such collaborations. Dallas/Fort Worth is a multifaceted business and engineering community, offering exceptional museums, diverse cultural attractions and a vibrant economy.

Interested and qualified individuals should send a complete resume, including a one-page statement of research interests and accomplishments to: Dr. David Johnson, Chair CSE Search Committee, Department of Mechanical Engineering, SMU P.O. Box 750337, Dallas, TX 75275-0337, or e-mail: dbj@seas.smu.edu. The committee will begin its review of applications on or about December 31, 2000. To ensure full consideration, applications must be postmarked by December 31, 2000, however, the search committee will continue to accept and review applications until the position is filled. All applicants will be notified of the final employment decision. Expected start date is August, 2001 or sooner.

SMU will not discriminate on the basis of race, color, religion, national origin, sex, age, disability, or veteran status. SMU is committed to nondiscrimination on the basis of sexual orientation.

Southwest Texas State University
Department of Computer Science
Applications are invited for both assistant and associate professor level tenure-track positions to begin Fall 2001. Applicants must have an earned doctorate in Computer Science or Computer Engineering or an equivalent degree. A commitment to excellence in teaching, research, and service is essential.

The Department of Computer Science has 19 faculty, 650 undergraduate majors and 150 masters students in Computer Science and

Software Engineering. The Bachelor of Science program in Computer Science is accredited by the Computing Sciences Accreditation Board. We have a thriving master's program and currently are preparing a Ph.D. proposal.

SWT, a comprehensive university with over 22,000 students, is located in San Marcos, Texas, a scenic college town close to both Austin and San Antonio. With proximity to many major high tech companies, the department and the university have enjoyed significant growth in the past decade. For more information see http://www.cs.swt.edu/recruitment/

Review of applications will begin on receipt and continue until the positions are filled. To apply, send a resume, including a list of publications, statements of research and teaching interests, and a list of at least three references with telephone numbers and e-mail and postal addresses. Applications will be accepted in postscript, pdf or printed format. Applications in postscript or pdf format should be sent to: hiring@cs.swt.edu. Printed applications should be sent to: Chair, Recruitment Committee, Department of Computer Science, Southwest Texas State University, 601 University Drive, San Marcos, TX 78666-4616.

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

Stanford University
Department of Computer Science
The Computer Science Department of Stanford University invites applications for a tenure-track faculty position, at the assistant professor level, from candidates with expertise in the areas at the intersection of computer science and biology. The position is open to candidates investigating computational techniques to solve challenging problems in biology (for example, sequence alignment, three-dimensional structure reconstruction, simulation of molecular motions, mining of genomic database, screening of molecular databases), as well as to candidates whose interest is in using biological knowledge to design new computational schemes and architectures. Higher priority will be given to the overall innovation and promise of the candidate's work than to the specific topics of this work.

An earned Ph.D., evidence of the ability to pursue a leading-edge research program at the intersection of computer science and biological sciences, and a strong commitment to graduate and undergraduate teaching is required. The successful candidate will be expected to teach courses in computer science and biomedical computing at the graduate and undergraduate levels. In addition, the candidate is expected to build and lead a team of graduate students in Ph.D. research with connections to new educational and research programs being created at Stanford such as the Bio-X initiative. Further information about the Computer Science Department can be found at http://www-cs.stanford.edu. Information about the Bio-X initiative can be found at http://cmgm.stanford.edu/biochem/biox/

Applications should include a curriculum vita, statements of research and teaching interests and the names of at least four references. The application should be sent to Professor Leo Guibas, Search Committee Chair, c/o Laura Kenny-Carlson, Computer Science Department, Stanford University, Gates 278, Stanford, CA 94305-9025.

The review of applications will begin on January 15, 2001, but applications will be accepted until February 15, 2001. The position is available beginning Autumn 2001. Stanford University is an equal opportunity employer and welcomes nominations of women and minority group members and applications from them.

Stanford University
Department of Computer Science
The Computer Science Department of Stanford University invites applications for a tenure-track faculty position at the assistant professor level. We are seeking applicants from all areas of Computer Science, including Foundations, Artificial Intelligence, Graphics, Databases, Systems, and Networking. The department has also interest in applicants who wish to pursue a research program at the frontiers of computer science, for instance quantum computing, computation and arts, or computational economics. Higher priority will be given to the overall innovation and promise of the candidate's work than to any specific area.

An earned Ph.D., evidence of the ability to pursue a research program, and a strong commitment to graduate and undergraduate teaching are required. The successful candidate will be expected to teach computer science courses at the graduate and undergraduate levels and to build and lead a team of graduate students in Ph.D. research. Further information about the Computer Science Department can be found at http://www-cs.stanford.edu.

Applications should include a curriculum vita, statements of research and teaching

interests and the names of at least four references. The application should be sent to Professor Monica Lam, Search Committee Chair, c/o Laura Kenny-Carlson, Computer Science Department, Stanford University, Gates 278, Stanford, CA 94305-9025.

The review of applications will begin on January 15, 2001, but applications will be accepted until February 15, 2001. The position is available beginning Autumn 2001. Stanford University is an equal opportunity employer and welcomes nominations of women and minority group members and applications from them.

Stevens Institute of Technology
Computer Science Department
Director
The Computer Science Department at Stevens Institute of Technology invites applications for the position of department director.

The department, organized into its present form only in 1996, has established full curricula at the BS, MS, and PhD levels as well as substantial research efforts in programming languages, software engineering, computer vision, graph algorithms, and semantics. Research support includes several NSF grants, close ties with nearby industrial labs such as AT&T Research and Lucent Bell Labs, and participation in two large multi-university state-supported centers of excellence in software engineering and wireless communication.

The mandate for the director is to enlarge the department, continue its improvement into a first-class environment for research and education, and align its research with Stevens' strategic direction of technogenesis, an educational frontier wherein faculty, students, and colleagues in industry jointly nurture new technology from conception to marketplace realization.

For this purpose, the university will devote substantial resources such as lab space, endowed graduate fellowships, and funds for substantial expansion beyond the present ten faculty. Salary will be fully competitive.

The successful applicant will have a record of outstanding research, a demonstrated capability of leadership, and a strong commitment to technical education at all levels.

The department resides within the School of Applied Science and Liberal Arts, one of three schools within the university of approximately 115 faculty, 1600 undergraduate and 2000 graduate students. Stevens, established in 1870, is located in Hoboken New Jersey, a small, charming, and gentrified town that lies across the Hudson River from midtown Manhattan. The university has a bucolic campus on Castle Point, a high promontory jutting out into the river. As seen at http://guinness.cs.stevens-tech.edu/~djd/manhattan.html, the campus enjoys spectacular views of the entire length of the island of Manhattan.

Applications should include a curriculum vitae, contact information for at least five references, and, optionally, other supporting documents such as statements about past accomplishments in research, teaching, or leadership.

Please send applications by email in ASCII, PostScript, or PDF format to: djd@cs.stevens-tech.edu or by post to:
Director Search Committee
c/o Dan Duchamp
Computer Science Department
Stevens Institute of Technology
Castle Point on Hudson
Hoboken, NJ 07030
Consideration of applications will commence on Nov 15, and continue until the position is filled. The preferred start date is July 1, 2001. Stevens is an Equal Opportunity/Affirmative Action employer. Women and minorities are particularly encouraged to apply.

Syracuse University
Department of Electrical Engineering and Computer Science
Several positions
The department anticipates the following new positions: (1) Two tenured/tenure-track faculty positions in our electrical engineering program with specialization in the wireless area. (2) Two tenured/tenure-track faculty positions in our computer engineering and computer science programs with emphasis in the systems assurance area including, hardware, software, middleware, and algorithms. Excellent candidates in other areas are also encouraged to apply.

For all positions, a doctorate in a field appropriate to the area is required at the time of employment. Set-up funds commensurate with the levels of the positions and the needs of the individuals will be provided for successful candidates. Tenured/tenure-track faculty members are expected to conduct research and teach graduate and undergraduate classes in their areas. A strong commitment to teaching excellence is essential, as is the initiative to build a funded research program.

Application deadline is December 29, 2000 or until the position is filled, and the starting date is August 20, 2001, or as soon as

(continued)

Professional Opportunities

possible thereafter. Submit a curriculum vitae, copies of selected publications, and names, addresses and e-mails of at least three references to: Faculty Search Committee, Department of Electrical Engineering and Computer Science, 121 Link Hall, Syracuse University, Syracuse, NY 13244-1240, USA. Please indicate the position for which you are applying.

Please see: http://uplink.syr.edu/faculty/search/d1/positions.html for more information.

Syracuse University is an Affirmative Action/Equal Opportunity Employer. Qualified individuals from underrepresented groups are urged to apply.

Texas A&M University
Bioinformatics and Computational Biology

Texas A&M University (TAMU) invites applications for several different positions in Bioinformatics. These positions, which are part of a campuswide expansion in genomics and bioinformatics, offer a chance to join an energetic and interdisciplinary community in the Life Sciences, with ample opportunities for collaborations with current faculty across the TAMU campus. Faculty candidates will be expected to establish active research programs with a substantial component involving the application of computational methods to biological problems, and will be expected to participate in teaching at the graduate and undergraduate levels. All positions are at the Assistant Professor level, but exceptional candidates will be considered for appointment at a higher academic rank. Applicants should send a curriculum vitae, statements of research and teaching interests, and arrange to have three letters of reference sent to the appropriate search committees:

Biochemistry and Biophysics (http://biochemistry.tamu.edu) - Bioinformatics Search Committee, Dept. of Biochemistry and Biophysics, Texas A&M University, 2128 TAMU, College Station TX, 77843-2128. Application deadline: Oct. 15, 2000.

Biology (http://www.bio.tamu.edu) - Biology Search Committee, Department of Biology, Texas A&M University, 3258 TAMU, College Station, TX 77843-3258. Application deadline: Sept. 15, 2000.

Computer Science (http://www.cs.tamu.edu)- Faculty Search Committee, Dept of Computer Science, Texas A&M University, 3112 TAMU, College Station TX, 77843-3112. Application deadline: Dec. 1, 2000.

Review of applications will begin on the indicated dates and continue until the positions are filled. Texas A&M is an outstanding university in a nice (and affordable) place to live.

Texas A&M University is an Equal Opportunity Employer and is committed to diversity.

Tufts University of Engineering
Assistant Professor - Engineering Psychology

The School of Engineering of Tufts University invites applications for a full-time, tenure track faculty appointment in the area of Engineering Psychology. The faculty rank will be at the Assistant Professor level. An engineering background and an earned doctorate in Engineering Psychology, Human Factors Engineering, or a closely related discipline are required. Teaching and industrial experience in Human Factors with emphasis on product design or human-computer interaction are both highly desirable. The successful applicant will be expected to teach undergraduate and graduate courses and conduct active scholarship. The successful applicant will serve as the engineering co-director of the interdisciplinary undergraduate program in Engineering Psychology, offered jointly by the School of Engineering and School of Arts & Sciences through its Department of Psychology. This responsibility includes program planning, student advising, and fostering student internships and corporate liaisons with the program.

Review of applications begins November 1, 2000 and continues until the position is filled. Applicants should submit a letter of application, educational and research plans, curriculum vitae, and the names and contact information for three references to Prof. Vincent P. Manno, Search Committee Chair, Department of Mechanical Engineering, Tufts University, Medford, MA 02155 or viaemail to Vincent.Manno@tufts.edu. Tufts University is an Affirmative Action / Equal Opportunity Employer. We are committed to increasing the diversity of our faculty. Women and members of underrepresented groups are strongly encouraged to apply.

Tulane University
Department of Electrical Engineering and Computer Science
Faculty Positions in Electrical Engineering and Computer Science

The Department of Electrical Engineering and Computer Science invites applications for several tenure-track faculty positions in Computer Science, Computer Engineering, or Electrical Engineering starting in Fall 2001. Candidates should have a Ph.D. in Computer Science, Computer Engineering, or Electrical Engineering, a strong commitment to both research and teaching, a publication record in their area, and demonstrate potential for obtaining external research funding. Outstanding candidates at all levels and from all areas of specialization will be considered.

Applicants should send a letter of intent, a statement of research and teaching interests, a resume, and the names of at least three references including the reference's address, e-mail, telephone, and fax number to:

Dr. Boumediene Belkhouche
Search Committee Chair
Department of Electrical Engineering and Computer Science
Tulane University
New Orleans, LA 70118

Applications will be accepted until the positions are filled. Tulane University is an equal opportunity/affirmative action employer.

University of Alabama at Huntsville
The Department of Electrical and Computer Engineering

The Department of Electrical and Computer Engineering of the University of Alabama in Huntsville invites applications for three tenure-track positions at all levels. The starting date can be as early as the Spring of 2001. Specific areas of interests are computer engineering, photonics/optics, and wireless communications/signal processing. Applicants should have a Ph.D. in electrical, computer, or optical engineering and have demonstrated potential for excellence in both instruction and research. The Department offers programs leading to bachelors, masters and doctoral degrees. For a more detailed description of the University of Alabama in Huntsville and the Electrical and Computer Engineering Department, please visit us at http://www.ece.uah.edu. For information about Huntsville, visit http://www.ci.huntsville.al.us.

Resumes with the names, addresses, and telephone numbers of three references should be mailed to Reza Adhami, Professor and Chair, Electrical and Computer Engineering Department, The University of Alabama in Huntsville, Huntsville, Alabama 35899. Review of applications will begin by September 2000 and will continue until all positions are filled.

UAH is an Equal Opportunity/Affirmative Action Employer

University of Alberta
Department of Computing Science

Do you have a commitment to the science of computing? Are you looking for an academic environment that focuses on the science of your discipline?

Join us in a dynamic Computing Science department, known for its collegial atmosphere and collaborative research environment. Our department is in the Faculty of Science at the University of Alberta, in Edmonton, the capital of Alberta. We have eight established research laboratories, including Algorithmics, Artificial Intelligence and Cognitive Science, Database Management, Graphics, Networks and Communications, Distributed Systems, Software Engineering, and Vision and Robotics. We have abundant computing facilities, and our department leads broadly-based multidisciplinary research within the Multimedia and Advanced Computational Infrastructure (MACI) project, and the Research Institute for Multimedia Systems (RIMS).

In addition to the standard computational research facilities, we also have a large SGI Origin 2000, and a 3D immersive display powered by an SGI Onyx2. We are currently constructing a new research laboratory building adjacent to a renovated historical building, to provide us with office and research space consolidated in the middle of our campus of about 30,000 students (see the WebCam at www.cs.ualberta.ca). Our current complement of 35 regular faculty work within a department of 28 support staff, 140 graduate students (50/50 MSc/PhD) and 400 undergraduate students. Our consistent performance in ACM World Programming Contests is evidence of our claim to be one of the best undergraduate programs in the country, and our graduate students are successful in industrial and academic research labs around the world.

We are looking for 15 highly productive eager computing scientists to complement our strengths in all areas. We are especially keen on those who can demonstrate that they are driven by curiosity and interested in collaborative research with existing faculty across sub-disciplines. Candidates should have, or be at the completion stage of degree, a PhD in Computing Science, a proven research record, and a strong commitment to excellence in teaching. Responsibilities include research as well as teaching at the graduate and undergraduate levels. Most positions will be at the

assistant professor level, however, we will consider associate and full professor appointments for outstanding candidates.

We offer an environment that is congenial and supportive of new PhDs, with the challenge to help you be your best, and the support to help you succeed within an academic environment. Our department is part of a full-service university, in a province that has the fastest economic growth in the country, and we enjoy strong collaborative ties with local industry. Competition will remain open until suitable candidates are chosen.

Find further details about us at www.cs.ualberta.ca and send your curriculum vita and the names and addresses of three referees to Iris Everitt, Administrative Assistant, Department of Computing Science, University of Alberta, Edmonton, Alberta, Canada T6G 2E8, or everitt@cs.ualberta.ca

The records arising from this competition will be managed in accordance with provisions of the Alberta Freedom of Information and Protection of Privacy Act (FOIPP). The University of Alberta hires on the basis of merit. We are committed to the principle of equity of employment. We welcome diversity and encourage applications from all qualified women and men, including persons with disabilities, members of visible minorities, and Aboriginal persons.

The University of Arizona
Department of Computer Science
http://www.cs.arizona.edu

Applications are invited for tenure-track faculty positions at all ranks, beginning employment August, 2001. Candidates must hold a doctorate in computer science or related field, have a commitment to excellence in teaching, and a demonstrated strong potential for excellence in research. Primary consideration will be given to computer scientists who work in systems software, networks, computational biology and graphics.

The Department of Computer Science at The University of Arizona has a long history of research accomplishment, influential software distribution and substantial external funding to individual faculty, exceeding 2.5 million dollars last year. Major funding has included three NSF infrastructure grants, providing a broad array of equipment for computing research. Research areas include programming languages, compilers, operating systems, networks, algorithm design, database systems, and computational biology.

Applicants must send a curriculum vitae and the names of at least three references to:
Faculty Recruiting Committee
Department of Computer Science
The University of Arizona
PO BOX 210077
Tucson, AZ 85721-0077.

We will start the review of applications on October 15, 2000, and will continue to consider applicants until the positions are filled, subject to availability of funds.

The University of Arizona is an EEO/AA employer - M/W/D/V.

University at Buffalo, The State University of New York
Department of Computer Science and Engineering
Faculty Positions in Computer Science and Engineering

The Department of Computer Science and Engineering (CSE) has several faculty openings at all levels. Candidates in all areas of Computer Science/Engineering will be considered; we are especially interested in candidates in the areas of information systems, networks and distributed computing, theory of computing, VLSI, and bioinformatics.

CSE faculty are affiliated with the Center for Computational Research, a leading academic supercomputing center in the U.S, the Center of Excellence in Document Analysis and Recognition, the National Center for Geographic Information and Analysis, and Center for Cognitive Science. The faculty include AAAI, ACM, and IEEE Fellows as well as NSF Career awardees. The average annual research expenditure over the past three years has been approximately $4.5 million.

Junior candidates are expected to have a Ph.D. in Computer Science/Engineering or related field by September 2001, and must demonstrate evidence of potential for publishing and developing a successful funded research program. Senior candidates are expected to have an excellent record of publication and funded research as well as international stature and recognition commensurate with rank.

All applications should include a cover letter, curriculum vitae, and the names and email addresses of at least three references (applicants for senior positions should have five references). Address applications to:
Chair
Faculty Search Committee
Department of Computer Science and Engineering
226 Bell Hall
University at Buffalo
Buffalo, NY 14260-2000

UNIVERSITY OF ILLINOIS AT CHICAGO
HEAD, DEPARTMENT OF COMPUTER SCIENCE

The newly formed Department of Computer Science of the University of Illinois at Chicago invites applications and nominations for the position of Department Head. The CS Department is growing out of the current Department of Electrical Engineering and Computer Science (EECS) along with a Department of Electrical and Computer Engineering. At the outset, the CS Department (http://www.cs.uic.edu) is expected to have between 25 and 30 faculty members. The CS department will offer B.S., M.S., and Ph.D. degrees in Computer Science. Student enrollment is approximately 400 undergraduate and 250 graduate students. The B.S. degree program is accredited by the Computer Science Accreditation Board, currently the only such program in Illinois.

The CS group within the EECS Department is one of the fastest growing in the country in terms of scholarly research and grant productivity. Active areas of research include database systems, software engineering distributing and operating systems, networked virtual environments, human-computer interaction, algorithms and complexity, computer networks, mobile computing, computer architecture, VLSI CAD, computer vision, artificial intelligence, and machine learning. The local academic culture encourages collaborations and interdisciplinary research. Research expenditures for the EECS Department during the past academic year totaled about 6.4 million dollars. The faculty members include IEEE and ACM fellows, as well as two recipients of NSF Career Awards.

The University of Illinois at Chicago (UIC) is in the center of the third-largest metropolitan area in the USA. UIC's location offers unique advantages and considerable growth potential for interactions with industry. The UIC campus is in the heart of the vibrant cultural, economic and medical hubs of the city, and adjacent to the high-tech suburban corridor that includes prominent national laboratories and industries. The city offers tremendous opportunities for employment and economic development as well as a rich cultural life. The software industry has a strong presence in the greater Chicago area both through large corporations (e.g., Motorola, Lucent Bell Labs, and Northrop Grumman) and smaller firms. UIC is the largest institution of higher learning in the Chicago metropolitan area with an annual operating budget in excess of $1 billion. It is one of only four Carnegie Foundation Research-I universities in the State of Illinois. The University is in the midst of a 500 million dollar project to develop its South Campus that will ensure continued growth.

We are looking for an individual who will provide visionary leadership; promote scholarly research; raise the external recognition of the Department nationally and internationally; and help maintain the rapid growth in research funding. There is a significant growth potential through the convergence of synergistic research groups, and the new Head will be provided with the resources to hire additional high-caliber faculty members.

Candidates for the Head position must have an earned Ph.D. in Computer Science or a related area, a distinguished scholarly record commensurate with the rank of full Professor, an interest in educational issues, and a proven ability to obtain research funds. Prior administrative experience is desirable. To ensure full consideration, send complete curriculum vitae, list of publications and the names, addresses and telephone numbers of four references by December 15, 2000 to:

Professor S. Murad, Chair Search Committee, College of Engineering, M/C 159, 851 South Morgan Street, Chicago, IL 60607-7043, Phone: (312) 996-5593, Email: murad@uic.edu.

Review of candidates will begin immediately and the search will continue until the position is filled. University of Illinois at Chicago is an equal opportunity/affirmative action employer.

Professional Opportunities

Email: cse-search@cse.buffalo.edu
Deadline for receipt of applications: December 31, 2000.

The University at Buffalo is New York's largest and most comprehensive public university. As the second largest city in New York state, Buffalo is the hub of a metropolitan area with a population over 1.1 million. University life is enriched by scenic, recreational, and cultural opportunities in the city, suburbs, and the neighboring Niagara and Metro Toronto regions. For more information about our department, the university, and the metropolitan area, please visit our website at http://www.cse.buffalo.edu.

The University at Buffalo is an Equal Opportunity Employer/Recruiter.

University of British Columbia
Department of Computer Science
Research and Teaching Faculty Positions

The Department of Computer Science at the University of British Columbia is recruiting for several tenure-track or tenured positions. Appointments at the rank of Assistant Professor, Associate Professor and Professor are possible. One of the University's highest academic priorities is to continue to grow as a leading centre in Computer Science, and outstanding candidates are sought to participate in this effort. Applicants must demonstrate exceptional research potential and teaching ability. Successful candidates are expected to pursue an active research program, perform both graduate and undergraduate teaching, and supervise graduate students. The Department will consider outstanding applicants over all areas of Computer Science research. The ability of an applicant's research program to complement and extend the existing research strengths of the department will be an important factor in selection. A Ph.D. or equivalent in Computer Science or a related area is required. The positions are available as of 1 July 2001, and salary will be commensurate with experience.

The University of British Columbia is situated on the tip of a peninsula, and is surrounded by beaches, lush green forests, and spectacular views of ocean, mountains and downtown Vancouver. Just 20 minutes away from both downtown and airport, this location enjoys a unique combination of unsurpassed opportunities for outdoor recreation and easy access to an exciting cosmopolitan city.

Applicants should submit their resume and the names of at least three references to Nick Pippenger, Chair, Recruiting Committee, Department of Computer Science, University of British Columbia, Vancouver, BC, V6T 1Z4. Applications will be accepted until 31 January 2001.

In accordance with Canadian Immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada. UBC hires on the basis of merit and is committed to employment equity. We encourage all qualified persons to apply. In order to address underrepresentation of members of designated equity groups among senior faculty, we may consider making an appointment at a higher rank for a woman, visible minority, disabled, or aboriginal applicant with exceptional qualifications. The positions are subject to availability of funding.

University of British Columbia
Department of Computer Science
Tenure-Track Teaching Positions

The Department of Computer Science is recruiting for one or more tenure-track teaching positions at the rank of Instructor. These positions provide the rare opportunity to pursue a career based on excellence in teaching, while participating as a first-class colleague in the intellectually exciting atmosphere of a top-tier computer science department. Duties include teaching at all undergraduate levels, curriculum development, and academic advising. Opportunities exist to take leadership roles in defining educational directions within the department, the university, and society at large. For example, our existing instructors have served in senior university administrative positions and created the revolutionary educational technology system WebCT. Participation in research activities is welcome, but maintaining a research program is not expected.

Applicants must demonstrate outstanding teaching ability and strong interpersonal skills. Experience in curriculum development is desirable. A Ph.D. or equivalent in Computer Science or a related area is expected, although exceptional candidates with other backgrounds will be considered. The positions are available as of 1 July 2001, and salary will be commensurate with experience.

The University of British Columbia is situated on the tip of a peninsula, and is surrounded by beaches, lush green forests, and spectacular views of ocean, mountains and downtown Vancouver. Just 20 minutes away from both downtown and airport, this location enjoys a unique combination of unsurpassed opportunities for outdoor recreation and easy access to an exciting cosmopolitan city.

Applicants should submit their resume and the names of at least three references to Nick

Pippenger, Recruiting Committee Chair, Department of Computer Science, University of British Columbia, Vancouver, BC, V6T1Z4, specifying that they are applying for the tenure-track Instructor position. Applications will be accepted until 31 January 2001.

In accordance with Canadian Immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada. UBC hires on the basis of merit and is committed to employment equity. We encourage all qualified persons to apply. In order to address underrepresentation of members of designated equity groups among senior faculty, we may consider making an appointment at a higher rank for a woman, visible minority, disabled, or aboriginal applicant with exceptional qualifications. The positions are subject to availability of funding.

University of California, Santa Barbara
Department of Computer Science
Faculty Positions

The University of California at Santa Barbara invites applications for faculty positions in Computer Science. While the department emphasizes building strengths in experimental computer science, applicants in all areas of computer science are welcome.

The Department of Computer Science currently has 23 full-time faculty and approximately 140 graduate students (including approximately 75 Ph.D. students) involved in various research areas including digital libraries and databases, parallel and distributed systems, programming languages, networking, bioinformatics, security, theory of computation, algorithms, computer vision and interaction, and computational sciences.

The Department of Computer Science is part of an expanding College of Engineering which encompasses over 100 faculty in various engineering disciplines. UCSB is a major research institution, elected member of the Association of American Universities, as well as an integral part of the nine-campus University of California system. Graduate degrees in Computer Science are offered at the M.S. and Ph.D. levels. The department recently received a NSF CISE award to experiment with campus-wide wireless network and multimedia services, and is engaged in a number of collaborative projects (e.g., Alexandria Digital Library) both at the College and the campus level.

Applicants should hold a doctoral degree in Computer Science or a related field; appointments are scheduled to begin in 2001-2002. Primary consideration will be given to candidates who apply by January 15, 2001, however positions will remain open until filled. Send resume and names of at least four referees to: Recruitment Committee, Department of Computer Science, University of California, Santa Barbara, CA 93106-5110. To apply by electronic mail, send the application to: recruitment@cs.ucsb.edu. Additional information about the Computer Science Department may be found at http://www.cs.ucsb.edu. An EO/AA employer.

University of California, Los Angeles
Department of Computer Science

The Department of Computer Science in the Henry Samueli School of Engineering and Applied Science at the University of California, Los Angeles, invites applications for tenure-track positions at all levels. Applications are especially welcome from distinguished candidates at senior levels.

Quality is our key criterion for applicant selection. Applicants should have a strong commitment to both research and teaching and an outstanding record of research for their level. We seek applicants in any mainstream area of Computer Science and Computer Engineering, but we particularly welcome those with a strength in operating systems, compilers, graphics, database systems, embedded systems, networking and security, and theoretical computer science.

Interested applicants should send a letter of application, a resume, and the names of four references to: Professor Milos D. Ercegovac, Chair, UCLA Computer Science Department, 4732 Boelter Hall, Los Angeles, CA 90095-1596.

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

University of Central Arkansas
Department of Computer Science
Chair and Faculty Positions

Applications are invited for the position of Department Chair and for tenure-track faculty in the Department of Computer Science. The expected starting dates are July 1 (chair) and August (faculty) 2001. Rank will be commensurate with experience; it is anticipated that the Chair will be appointed as Professor, and that faculty appointments will be as Assistant or Associate Professor. A Ph.D. in computer science or related field is required for all positions.

The Department is part of the College of Natural Sciences and Mathematics. Computer Science was established as a separate depart-

ment in 1996, and currently has more than 200 majors; it will move into a new seven million dollar building, designated for technology related programs, in Fall 2002. The Department currently offers a BS in computer science; a BA in computer science, and an MS in Applied Computing are currently under review by the university.

The university is committed to excellence in undergraduate and graduate education, and fosters student-centered learning, technology enhanced pedagogies, and research experiences for all students in its departments and programs. Support to aid the development of competitive faculty research programs is available. Current research in computer science includes medical imaging, databases, distributed computing, and computer science education. Candidates from all areas of computer science will be considered; those with interests in software engineering and networking, or those who would complement and strengthen current research are particularly encouraged to apply. For more information about the department or university, visit www.uca.edu.

Candidates should send application letters, curriculum vitae, statements of teaching philosophy and research plans, and the names and addresses of three references to Computer Science Chair Search or Computer Science Faculty Search, College of Natural Sciences and Mathematics, UCA, 201 Donaghey Avenue, Conway, AR 72035. Electronic submissions to path@mail.uca.edu are encouraged (specify the position sought in the subject line). Review of applications will begin on December 1, 2000, and will continue until the positions are filled. Successful faculty candidates can elect three-year rolling contracts in lieu of tenure track appointments. UCA is an equal opportunity/affirmative action employer.

University of California, Santa Cruz
Computer Science Department
Tenure-track and tenured faculty positions

The Computer Science Department of the University of California, Santa Cruz (UCSC) invites applications for several tenure-track and tenured faculty positions, starting in Fall 2001. The target areas and levels of positions are listed below. The Department and the School of Engineering are in a period of rapid growth; outstanding applicants from other areas may also be considered.
— One Assistant Professor position in computer systems, preferably with research interests in storage systems, distributed systems, operating systems and computer security.
— One Assistant Professor position and one Associate Professor position in database systems, preferably with research interests in heterogeneous databases, information systems, data mining, and bioinformatics databases.
— One Assistant Professor position and one Associate Professor position in software engineering.
— One Assistant Professor or Associate Professor or Professor position in bioinformatics, computational molecular biology, bioinformatic databases and data mining.

The Computer Science Department at UCSC is part of the Jack Baskin School of Engineering, which is entering an exciting phase of expansion aimed at areas that will be of great demand in the next decade (see http://www.cse.ucsc.edu/ for additional information).

All applicants should submit by January 8, 2001 a curriculum vitae, a statement of research interests and plans, a statement of teaching interests and experience, and the names, affiliations and email addresses of at least four references to:
Chair, Computer Science Search Committee
Jack Baskin School of Engineering
University of California, Santa Cruz
1156 High Street
Santa Cruz, CA 95064
Applications may also be submitted electronically by sending e-mail to: recruit@cse.ucsc.edu. For detailed information on how to apply, please send email to recruit@cse.ucsc.edu or visit http://www.cse.ucsc.edu/
UCSC is an EEO/AA/IRCA Employer

University of California, Santa Cruz
Computer Engineering

The Computer Engineering Department of the Jack Baskin School of Engineering at the University of California, Santa Cruz (UCSC) invites applications for multiple tenured and tenure-track faculty positions, starting Fall 2001. Target areas and levels are listed below. The Department and School are in a period of rapid growth; outstanding candidates from all areas and at all levels may also be considered.
— Two Assistant Professor positions in computer and network systems, including software systems, hardware systems, VLSI design, wireless and mobile networking, systems on a chip, and other related areas.
— One Assistant Professor position in image processing systems.
— One Assistant Professor and one Associate Professor position in software engineering including: software system design, methodology and specification, software tools and technology, and other related areas.

Computer Engineering is part of the Jack Baskin School of Engineering. The School plans to double in size over the next three years, and is developing many new programs.

Applicants should submit by January 10, 2001 a curriculum vitae; a statement of research interests and plans; a statement of teaching interests; copies of selected reprints; and the names, affiliations, and email addresses of at least four references to:
Chair, Computer Engineering Search Committee
Jack Baskin School of Engineering
University of California, Santa Cruz
1156 High Street
Santa Cruz, CA 95064
Applications may also be submitted electronically by sending e-mail to:
recruit@cse.ucsc.edu. For further details on how to apply, please send e-mail to recruit@cse.ucsc.edu or visit http://www.cse.ucsc.edu/.
UCSC is an EEO/AA/IRCA Employer.

Professional Opportunities

University of California, Irvine

The Department of Information and Computer Science

www.ics.uci.edu

The Department of Information and Computer Science (ICS) has several tenured or tenure-track positions open in the following areas of research emphases:

A. Computer Graphics
B. Human-computer interaction, computer-supported cooperative work
C. Computer Security or Cryptography
D. Software Engineering
E. Bioinformatics or Medical Informatics
F. Information Infrastructure

Available positions are for an associate or assistant professor in computer graphics and assistant professor positions in other areas, but exceptional candidates from all ranks will be considered. In all cases, we are looking for applicants with a Ph. D. degree in Computer Science or a related field, and strong research credentials as evidenced by scholarly publications. Applicants for senior positions must also demonstrate a proven track record in funded research activities.

The ICS Department is organized as an independent campus unit reporting to the Executive Vice Chancellor. It runs the second most popular major at UCI and has designed an undergraduate honors program that attracts the campus' most qualified students. External funding from government and industrial sponsors exceeded $10 million last year. The Department currently has 38 full-time faculty and 250 Ph.D. students involved in various research areas including computer science theory, embedded computer systems, artificial intelligence, networks and distributed systems, databases, multimedia systems, computer systems design, software/software engineering, human-computer interaction and computer-supported cooperative work. ICS faculty are involved in the forefront of research in the emerging areas of the computer science discipline such as multimedia/embedded computing, knowledge-discovery in databases, bioinformatics and the role of information in computer science and society. The faculty has effective interdisciplinary ties to colleagues in digital arts, biology, cognitive science, engineering, management, medicine, and the social sciences.

Although UCI is a young university, it has attained remarkable stature in the past 3 decades. Two Nobel prizes were recently awarded to UCI faculty. UCI is located three miles from the Pacific Ocean near Newport Beach, approximately forty miles south of Los Angeles. The climate is ideal year-round avoiding extreme temperatures in winters and summers. Irvine is consistently ranked among the safest cities in the U.S. and has an exceptional public school system. The campus is surrounded by high-technology companies that participate in an active affiliates program. Both the campus and the area offer exciting professional and cultural opportunities. Mortgage and housing assistance are available including newly built, for-sale housing located on campus and within short walking distance from the department.

Applicants should send a cover letter indicating which of the areas above [A-F] best fits their research, a CV, three sample papers and contact information for three or four references to recruit@ics.uci.edu (PDF, postscript, Word, or ASCII). Applicants are requested to ask their references to send letters of evaluation to recruit@ics.uci.edu by January 12, 2001. Those that insist upon sending hard copy may send it to:

ICS Faculty Position [A-F]
c/o Peggy Munhall
Department of Information and Computer Science
University of California, Irvine
Irvine, CA 92697-3425

Application screening will begin immediately upon receipt of curriculum vitae. Maximum consideration will be given to applications received by January 5, 2001. The University of California is an Equal Opportunity Employer, committed to excellence through diversity.

University of Connecticut

Computer Science & Engineering
Assistant/Associate/Full Professor
Multiple Positions

The Computer Science & Engineering Department seeks outstanding candidates in all areas of computer science and engineering for three tenure-track faculty positions at all ranks, starting in either January 2001 or Fall 2001. Candidates at the associate and full professor level, with exceptional records, may be considered for United Technology Corporation Endowed Professorships in Computer Science & Engineering. The University of Connecticut is the land-grant, flagship graduate degree-granting institution in Connecticut. The CS & E Department offers Ph.D., M.S., and B.S. degrees, and is strongly committed to research and teaching excellence, continued growth, and increasing national visibility.

Our research foci include distributed computing, networks, intelligent systems, agent-based computing, parallel algorithms, complexity theory, data security and cryptography, geometric modeling, databases, computational biology, performance modeling, and human-centered computing. With the new appointments we aim to broaden our research foci and strengthen the existing areas. CS&E faculty are currently funded by NSF, AFOSR, NIH, DARPA, Mitre, and numerous other industrial and State of Connecticut sources.

Candidates are encouraged to state the primary areas of their research interests.

Candidates must have completed all requirements for their Ph.D. in Computer Science, Computer Engineering or a related field by the time of appointment. Candidates are also expected to have a research/publication record commensurate with experience, and a strong commitment to scholarly research and teaching.

Applicants are invited to submit resumes and the names (including phone numbers and e-mail addresses) of three references to: Steven A. Demurjian, Chair, Faculty Search Committee, Computer Science & Engineering Department, University of Connecticut, 191 Auditorium Rd., Box U-155, Storrs, CT 06269. Administrative inquiries may be directed to leenie@engr.uconn.edu. Research and teaching inquiries can be directed to cse_search@ansible.engr.uconn.edu. For further information see http://www.cse.uconn.edu/cse. Screening will begin as of November 15, 2000, and will continue until all positions are filled. Applicants are responsible for contacting their references to have letters sent prior to the deadline.

The University of Connecticut is committed to building a culturally diverse faculty and strongly encourages applications from women, minorities and people with disabilities. The University of Connecticut is an Affirmative Action/Equal Opportunity Employer. (Search #0A124)

University of Connecticut

Electrical and Computer Engineering Department
Faculty Search

The Department of Electrical & Computer Engineering (ECE) at the University of Connecticut invites nominations and applications to fill two tenure track faculty positions in Computer Engineering at the assistant or associate professor level beginning in August 2001 or as soon as possible. The department is interested in but not limited to candidates with research interests in computer architecture, hardware-software co-design, computer networks, digital system design and testing, real-time and embedded systems, and fault tolerant and re-configurable computing. Necessary qualifications include an earned doctorate in Electrical Engineering or Computer Engineering, a strong commitment to effective undergraduate and graduate teaching including laboratory development, outstanding scholarly research achievement and potential to attract external funding for research as well as participating in departmental activities and professional societies. Applicants with outstanding and exceptional credentials may be considered for named young endowed professorship with an endowment of $500,000.

The Electrical & Computer Engineering Department provides one of six accredited engineering programs in the School of Engineering. It is staffed with 16 faculty members, and has enrollments of more than 111 full-time undergraduates and 90 full-time graduate students. The faculty has an international reputation with 6 IEEE Fellows, two Editors-in-Chief of *IEEE Transactions*, and more than 10 other Editorial positions. Departmental research activities attract over $4 million in annual funding, are broad in nature, and encompass the following areas: biomedical engineering, computer engineering, communications, digital signal and image processing, control and estimation theory, manufacturing, microelectronics, optoelectronics, photonics, and systems engineering. In the past three years, the Department has graduated an average of 12 Ph.D. students per year.

The Department has extensive, well-equipped labs for graduate and undergraduate teaching and research that includes among others a state of the art VLSI design laboratory and a class 100 clean room. It also maintains strong ties to interdisciplinary research centers for Material Science, Photonics, Computer Applications, Transportation, and Electrical Insulation, which provide facilities and services for faculty and graduate student research and extensive interaction with industry. The School of Engineering is ranked 26th among public universities in research expenditures, and has recently established 11 new endowed chairs/named professorships. Several are available to the ECE Department. In addition, the University has approved construction of a new, 100,000 sq. ft. Information Technology building to be completed in March of 2003. The Electrical & Computer Engineering Department, along with the Computer Science & Engineering Department, will occupy this new building. This construction is part of UConn 2000, an ongoing $1 billion infrastructure initiative. The University is located in Eastern Connecticut with convenient access to major airports and the metropolitan areas of Hartford, Boston, and New York.

Applicants should indicate the area for which they are applying. Send application or nomination letter, resume and the names of three references to: Dr. A.F.M. Anwar, Head, ECE Department, University of Connecticut, 260 Glenbrook Road, Unit 2157, Storrs, CT 06269-2157. Phone: 860-486-3410, Fax: 860-486-2447, email: anwara@engr.uconn.edu, URL: http://www.ee.uconn.edu/.

The review of applications will proceed on their arrival. The expected job starting date is August 2001 or as soon as possible. The search will continue until the positions are filled. The University of Connecticut is an Equal Opportunity Affirmative Action Employer.

University of Denver

Department of Mathematics and Computer Science

We invite applications for a tenure-track faculty position at the Assistant Professor level to begin fall 2001.

The minimum requirements are (by September 2001) a Ph.D. in CS or related areas and demonstrated ability in research and teaching. The department is particularly interested in a candidate who can teach and direct research in the systems areas including OS, data base, geographic information systems, parallel and distributed systems, graphics, multimedia, networks, mobile computing, telecommunications, and/or software engineering.

Our current faculty have research programs in algorithms, computational, geometry, database systems, graphics, E-commerce, network security, privacy, optical networks, parallel computer architecture, multimedia servers, and performance modeling. We offer BS and MS degrees in each of Computer Science and Mathematics, and a joint Ph.D. in Mathematics and Computer Science. We are in the process of creating a Ph.D. in Computer Science. For more information view our web site at www.cs.du.edu.

The University of Denver is a medium-size (8,000 students) private university. Class sizes are small, the teaching load is moderate and the salary is competitive. The University is located in an attractive residential area 5 miles from downtown Denver. Denver, with its metro area population of 2.3 million, is consistently ranked as one of the country's most pleasant places to live. Many of the country's best ski areas, mountain bike trails, and the 14,000 foot peaks of the Colorado Rockies are only one or two hours away.

The University of Denver is committed to enhancing the diversity of its faculty and staff and encourages applications particularly from women, minorities and the disabled.

Application screening will begin immediately and continue until the position is filled. Applicants should submit a curriculum vitae, a statement of teaching and research interests, and have at least 3 reference letters sent to:

Chair, Computer Science Search Committee
Mathematics and Computer Science Department
University of Denver
2360 S. Gaylord Street
Denver, CO 80208-0189

University of Florida

Department of Computer and Information Science and Engineering

The Department of Computer and Information Science and Engineering at the University of Florida invites applications for several tenure track positions at all ranks beginning August 2000. While applications in all areas of computer science and engineering are welcome, we are particularly interested in outstanding candidates with expertise in the following fields: software engineering, systems and architecture, computer arts, bioinformatics and biocomputing, computer graphics and visualization, and database systems,.

All applicants should hold a PhD in Computer Science, Computer Engineering, or a closely related discipline, and should be committed to excellence in teaching and research. Salary and support are competitive and depend on background and experience.

The Department of CISE currently has a faculty of 28 and a student body of 240 graduate and 1400 undergraduate students. The Department encompasses a wide range of research areas including high performance computing, database systems, computer vision, visualization, and simulation, computer networks and security, distributed and real-time systems, and software engineering.

Candidates should send a curriculum vitae with the names of at least three references. The deadline for submitting applications is October 30, 2000. If the position(s) has not been filled, a new application receipt deadline will be March 1, 2001. Please send applications to:

Professor Paul Fishwick Chair, Faculty Search Committee Department of Computer and Information Science and Engineering
301 CSE, PO Box 116120
University of Florida
Gainesville, FL 32611
e-mail: fishwick@cise.ufl.edu
Tel: (352) 392-1414

The University of Florida is an Affirmative Action Employer and women and minorities are encouraged to apply. For more information about the department and the positions, please visit http://www.cise.ufl.edu/

University of Massachusetts Lowell
Department of Computer Science
Faculty Positions

The Department of Computer Science at the University of Massachusetts Lowell seeks scholars with exceptional records or, for junior appointments, with exceptional potential to expand our suite of research groups. We invite applications for several tenure-track faculty positions, to start in January or September 2001, from applicants with specialties in traditional or innovative areas of computer science. We anticipate hiring at the assistant professor level, but will consider candidates at all levels.

Our campus is located 35 miles northwest of Boston in the state's high-tech corridor and is considered the most technology-oriented of the five UMass campuses. The CS department has 16 full-time faculty, as well as over 350 undergraduates in the bachelor's program and over 300 graduate students in the master's and doctoral programs. Our research specialties include human-computer interaction, visualization and perception, database systems, networking and telecommunications, languages and compilers, object-oriented software engineering, internet and web systems and a newly formed groups in bioinformatics and computational geometry. For more information about us, please visit http://www.cs.uml.edu.

We are seeking candidates who will contribute to the intellectual life of the department, the university, and the region by establishing active research groups, teaching core and elective computer science courses to undergraduate and graduate students, and establishing professional connections with the some of the thousands of thriving information technology companies in the area.

Applicants must have a doctorate in Computer Science or a closely related discipline at the time of appointment. Please send a statement of research interests; curriculum vitae; selected relevant papers; the names, addresses, email addresses, and telephone numbers of at least three references and, if appropriate, your residency status to:

Dr. Thomas M. Costello, Head
Department of Computer Science
University of Massachusetts Lowell
One University Avenue
Lowell, Massachusetts 01854
tom@cs.uml.edu

Review of applications will begin immediately, and will continue until the positions are filled. US citizenship or permanent residency is required. The University of Massachusetts is an equal opportunity, affirmative action employer, and encourages applications from women and minorities.

Professional Opportunities

University of Illinois at Chicago
Department of Electrical Engineering and Computer Science
Faculty Positions in Computer Science

We invite applications for assistant, associate and full professors as well as lecturers. A Ph.D. degree in Computer Science or its equivalent is required for tenure-track positions. Outstanding candidates in all areas of COMPUTER SCIENCE will be considered. All candidates should have outstanding research and teaching potential.

UIC is a Research-1 university and the largest institution of higher education in the Chicago area. The University is in the midst of a $500 M project to develop its South Campus. The CS division of the Department has about 25 faculty members and about 300 graduate students, and offers BS, MS, and Ph.D. degrees. It has annual research expenditures of over $3 million and a faculty that consists of IEEE and ACM Fellows. Its computing resources include over 100 workstations, and over 13,000 square feet of research space. For more information about the EECS department, visit our web page at http://www.eecs.uic.edu.

The UIC campus is located near downtown Chicago, and is close to other research institutions and universities. Chicago offers all the cultural amenities of a major city, a wide range of affordable housing and plenty of job opportunities. For full consideration, send a vita and the names and addresses of at least three references by January 31, 2001 to Prof. Clement Yu, Search Committee Chair, Department of EECS (M/C 154), 851 S. Morgan Street, Room 1120 SEO, Chicago, Illinois 60607-7053. However, applications will be considered until all positions are filled. The University of Illinois at Chicago is an Affirmative Action/Equal Opportunity Employer.

University of Illinois at Urbana-Champaign
Department of Electrical and Computer Engineering

The Department of Electrical and Computer Engineering invites applications for tenure-track and tenured faculty appointments in all areas of Computer Engineering including, but not limited to, the areas of computer systems and networks, operating systems, distributed systems, embedded systems, fault tolerance and parallel processing, performance/dependability analysis, computer system and network security, design verification, high-level synthesis, hardware/software co-design, computer vision and image processing, and robotics and computer graphics. Applications are also encouraged from candidates whose research programs are in non-traditional and interdisciplinary areas of computer engineering, including areas in information technology, and whose instructional programs will bring innovation to the curriculum. Applicants for tenure track positions at the assistant professor level must have an earned Ph.D., outstanding academic credentials, and an ability to teach effectively at both the graduate and undergraduate levels. Successful candidates will be expected to initiate and carry out independent research and to perform academic duties associated with our B.S., M.S., and Ph.D. programs. Senior level appointments with tenure are also available for individuals of international stature.

Our faculty carry out research in a broad spectrum of areas related to computing and networking, and are supported by world-class facilities and programs for international work, including a NSF supercomputing research and education center (NCSA), the Coordinated Science Laboratory, the Microelectronics Laboratory, several industrial research centers, and the Beckman Institute for Advanced Science and Technology. The department also has one of the largest programs in the United States granting approximately 350 B.S. degrees, 100 M.S. degrees and 60 Ph.D. degrees annually. Salary will be commensurate with qualifications.

Applications must be received by January 15, 2001, to receive full consideration. Preferred starting date is August 21, 2001, but is negotiable. Send resume, including names and addresses of at least three references, a list of publications and a summary of your proposed research and teaching programs (3 pages maximum), to: Dr. Sung-Mo (Steve) Kang, Head, Electrical and Computer Engineering Department, 1406 W. Green St., Urbana, IL 61801. Telephone: (217)244-0968. More information can be found on the web at www.ece.uiuc.edu. The University of Illinois at Urbana-Champaign is an Affirmative Action/Equal Opportunity Employer.

University of Iowa
Management Sciences Department
Tenure-track, Non-tenure-track, or Visiting

The Department anticipates one or more open positions for Fall 2001 at all levels. We invite applications in information systems (databases and distributed information systems, networks, software engineering, machine learning, adaptive systems, data mining and internet technologies) or operations management (logistics, supply chain management, inventory management, manufacturing strategy and product development). However, excellent candidates in all areas will be seriously considered.

Candidates for assistant professor should have a PhD in MIS, OM, CS, IS or related field and exhibit exceptional research promise. Those for a more senior position should have an outstanding record of research. Extensive collaborative opportunities across departments and colleges are available. Current interdisciplinary efforts include the areas of computational biology, medical and pharmacological decision making, target marketing, and distributed information retrieval. Interest and ability in teaching is necessary. Non-tenure-track faculty candidates should have exceptional teaching records or substantial industrial experience.

Applicants should submit a summary of research interests, CV, and contact information for at least three references.

Further details and instructions are provided at
http://www.biz.uiowa.edu/mansci/recruit. Salary and rank will be commensurate with qualifications. Applications will be received until the positions are filled.

The University of Iowa is an Equal Opportunity/Affirmative Action Employer; women and minority applicants, veterans and persons with disabilities are strongly encouraged to apply.

University of Iowa
Computer Science Department
Assistant Professor Positions, Fall 2001

The University of Iowa Computer Science Department invites applications for tenure-track and visiting positions at the assistant professor level. All research areas will be considered, although preference will be given to applicants with interests in software engineering and information/data management.

Selection will be based on evidence of outstanding research potential and teaching ability. We seek candidates whose research has achieved, or promises to achieve, national recognition and appropriate extramural funding. A Ph.D. in Computer Science (or a closely related field) is required.

Iowa City is a small city of approximately 75,000, with excellent public schools, affordable housing, a world-class medical center, low crime rate, and abundant cultural and recreational activities. The University has approximately 29,000 students. The campus of 100 buildings on 900 acres is nicely situated along both banks of the Iowa River and is adjacent to the thriving downtown commercial area of Iowa City.

To apply, please send a resume and have three letters of recommendation sent to:
Faculty Hiring Committee
Department of Computer Science
University of Iowa
14 MacLean Hall
Iowa City, Iowa 52242-1419
Evaluation of applications will begin immediately and continue until the position is filled. Applications received on or before January 15, 2001, will be assured of consideration.

Informal queries may be directed to cs_hiring@cs.uiowa.edu.

Women and minority candidates are especially urged to apply for this position. The University of Iowa is an Affirmative Action/Equal Opportunity Employer.

University of Kentucky
Department of Computer Science

The University of Kentucky Computer Science Department invites applications for several tenure-track positions beginning August 15, 2001 at all levels. Candidates should have a PhD in Computer Science or a related discipline. Review of credentials will begin on November 1, 2000, and the search process will continue until suitably qualified candidates are found.

We are interested in candidates with expertise in all areas of computer science. Candidates in the areas of computer graphics, computer vision and multimedia will receive special consideration. Appointed individuals will be expected to conduct innovative research and participate in the Department's undergraduate and graduate instructional programs.

The Department of Computer Science offers BS, MS and PhD degrees. There are about 500 undergraduate and 100 graduate students currently enrolled. Our faculty are actively involved in research in artificial intelligence, computer vision, cryptography, databases, graphics and image processing, networking, numerical analysis, operating systems and theory. Most of this research is supported by external grants and contracts.

The Department is currently experiencing a period of dynamic growth. It was selected by the University as one of eleven programs for substantial enhancement funding. Equipment and Infrastructure grants from the National Science Foundation support state-of-the-art research computing facilities in the department, and in the Laboratory for Advanced Networking which opened in Summer 2000. Generous start-up funds are available to all new computer science faculty.

The University of Kentucky is the flagship graduate degree-granting institution in Kentucky, strongly committed to the goal of maintaining research and teaching excellence and high national visibility. The Center for Robotics and Manufacturing Systems and the Center for Computational Sciences, located on campus, greatly enhance research opportunities.

The University of Kentucky is an equal-opportunity employer and especially encourages applications from women and minority candidates.

Please send curriculum vitae and the names of three references to:
Faculty Search Committee
c/o Ms. Diane Mier
Department of Computer Science
University of Kentucky
Lexington, KY 40506-0046
E-mail: diane@cs.engr.uky.edu
Fax: (859) 323-1971
An equal opportunity / affirmative action employer

University of Louisiana at Lafayette
The Center for Advanced Computer Studies
Faculty Positions
Graduate Fellowships

Candidates with a strong research record and an earned doctorate in computer science or computer engineering are invited to apply for three tenure track assistant professor positions starting August 20, 2001 (starting spring, 2001 is also available).

Target areas include computer networks, communications, programming languages, and software engineering.

Consideration will also be given to outstanding candidates in other areas. The candidate must have demonstrated potential to achieve national visibility through accomplishments in research contract and grant funding, publications, teaching and supervising graduate students.

Faculty teach mostly at the graduate-level and offer a continuing research seminar. State and university funds are available to support research initiation efforts. External grants/contracts from federal and state agencies support the Center's ongoing research (over $4.5M in 1998-99). Salaries are competitive along with excellent support directed towards the attainment of our faculty's professional goals. The Center's colloquium series brings many world known professionals to our campus each year.

Fellowships:
A number of PhD fellowships, valued at up to $18,000 per year including tuition and most fees, are available. They provide support for up to four years of study towards the PhD in computer science or computer engineering. Eligible candidates must be U.S. citizens or must have earned an MS degree from a U.S. or Canadian university. Recipients also receive preference of low-cost campus housing.

The Center:
The Center is primarily a graduate research unit, of 19 faculty, with programs leading to MS/PhD degrees in computer science and computer engineering. More than 200 graduate students are enrolled in these programs, including 54 PhD students. The Center has state-of-the-art research and instructional computing facilities, consisting of several networks of SUN workstations and other high performance platforms. In addition, the Center has dedicated research laboratories in Computer Vision and Pattern Recognition, Intelligent Robotic Systems, Software Research, VLSI Design, Automated Reasoning, Multimedia Applications, Wireless Communication, Mobile Information Technologies, Internet Computing, and NASA Regional Applications Center (RAC). Related university programs include the CSAB accredited undergraduate program in Computer Science Department, and the ABET accredited undergraduate program in Electrical and Computer Engineering Department. Additional information about the Center may be obtained at http://www.cacs.louisiana.edu/.

The University:
The University of Louisiana at Lafayette is the second largest university in the state of Louisiana, with enrollment of about 17,000 students. It is a Doctoral II University. Additional information may be obtained at http://www.louisiana.edu/. The University is located in Lafayette, the capital of Acadiana, which is characterized by its Cajun music and food, and joie de vivre atmosphere. The city, with its population of over 100,000, provides many recreational and cultural opportunities. Lafayette is located approximately 120 miles west of New Orleans.

The search committee will review applications and continue until the position is filled. Candidates should send a letter of intent, curriculum vitae, statement of research and teaching interests, and names, addresses and telephone numbers of at least four references. Additional materials, of the candidate's choice, may also be sent to:
Dr. Magdy A. Bayoumi, Director The Center for Advanced Computer Studies University of Louisiana at Lafayette Lafayette, LA 70504-4330 Tel: 337.482.6284; Fax: 337.482.5791
The University is an Affirmative Action/Equal Opportunity Employer.

Professional Opportunities

University of Maryland, College Park
Center for Bioinformatics and Computational Biology
Faculty Positions

The University of Maryland invites faculty applications at all levels for the newly established Center for Bioinformatics and Computational Biology.

The campus has substantial resources committed to the Center, including funds for the recruitment of six new faculty with research interests in focused areas of computational genomics such as functional genomics and proteomics. It is anticipated that the primary backgrounds of the new faculty will span computer science, mathematics and statistics, molecular biology, and biochemistry. The primary responsibility of the new faculty will be to lead a focused, nationally visible research program in computational genomics.

All the new faculty will be housed in the University of Maryland Institute for Advanced Computer Studies (UMIACS) and will have access to significant high-end computing infrastructure. The new faculty will also be affiliated with at least one of the academic units on campus depending on their interests, with the potential of pursuing research collaborations with nearby outstanding research groups in organizations such as NIH, Celera,TIGR, UMBI, and the Smithsonian.

To apply, send a letter of application, curriculum vitae and a list of suggested names and addresses for letters of recommendation to:
Dr. Joseph JaJa, Chair of Search Committee
Center for Bioinformatics and Computational Biology
Institute for Advanced Computer Studies
University of Maryland
College Park, MD 20742

For more information, please contact Dr. Joseph Jaja at 301-405-6722 or joseph@umiacs.umd.edu.

The University of Maryland is an affirmative action, equal opportunity employer. Women and minorities are encouraged to apply. Applications will be accepted until the positions are filled.

University of Maryland, College Park
Department of Computer Science

The University of Maryland, College Park, Department of Computer Science is seeking faculty members at all ranks. Truly outstanding candidates in all areas will be considered, but we are especially seeking candidates in the areas of networks, mobile computing, multimedia systems, graphics, Human Computer Interaction, databases, information security, programming languages and software engineering.

Under the University of Maryland Flagship Initiative, candidates with established research programs will be considered for joint appointments between the Department and the Institute for Advanced Computer Studies, The Department of Electrical Engineering, and the Institute for Systems Research.

Candidates who are interested should send curriculum vitae, research summary, and at least four names of references with (3) emphasizing research and (1) emphasizing teaching to:
University of Maryland at College Park
Department of Computer Science
Attention: Recruiting Committee
College Park, Maryland 20742-3255

At the time they apply, candidates must request their references to send written recommendations. Failure to do so will delay the application process. Beginning January 15, 2001 we will begin the review of candidates to interviewed and therefore encourage your early application.

Additional information about academic and research units at Maryland is available on the World Wide Web.
Department of Computer Science, http://www.cs.umd.edu/

The University of Maryland is an Equal Opportunity, Affirmative Action Employer.

University of Massachusetts, Amherst
Department of Computer Science
Faculty and Research Scientist Positions

The University of Massachusetts, Amherst invites applications for tenure-track faculty positions at the assistant professor level. Applicants must have a Ph.D. in Computer Science or related area and should show evidence of exceptional research promise. Candidates in all areas of Computer Science are encouraged to apply. We particularly welcome candidates who would thrive in a highly collaborative environment in which projects often span several research groups. Candidates with an established record of strong research may also apply for positions other than at the assistant professor level.

The Department of Computer Science has 39 tenure and research track faculty and 160 Ph.D. students with broad interdisciplinary research interests. The department offers first-class research facilities and has just moved into a new state-of-the-art building. Please see http://www.cs.umass.edu for more information. Applications should reference search R10951.

We also invite applications for Research Faculty (R10950), Research Scientist (R10949), Postdoctoral Research Associate (R10949), and Research Fellow (R10949) positions in all areas of Computer Science. Applicants should have a Ph.D. in Computer Science or related area (or an M.S. plus equivalent experience), and should show evidence of exceptional research promise. These positions are grant-funded; appointments will be contingent upon continued funding.

To apply, send a letter with your vitae and names of at least three references to:
Search [fill in number from above]
c/o Chair of Faculty Recruiting
Department of Computer Science
University of Massachusetts
Amherst, MA 01003-4610

We will begin to review applications on December 15, 2000, and will continue until available positions are filled. Salary commensurate with education and experience; comprehensive benefits package. The University of Massachusetts is an Affirmative Action/Equal Opportunity employer. Women and members of minority groups are especially encouraged to apply.

University of Maryland Baltimore County
Department of Computer Science and Electrical Engineering

The Department of Computer Science and Electrical Engineering (CSEE) of the University of Maryland Baltimore County (UMBC) invites applications for tenure-track faculty positions at the rank of Assistant Professor. Higher ranks may be considered.

We are especially interested in applicants in the areas of computer engineering, software systems, computer graphics, or computer networks, but outstanding candidates in other areas will be considered. Applicants must have, or be about to receive, a Ph.D. in computer science, computer engineering, electrical engineering, or a related discipline.

The Department offers B.Sc., M.Sc., and Ph.D. degrees and has 35 full-time faculty members, and about 1200 undergraduate majors and 250 graduate students. We received over $7.5M in sponsored research support last year and are planning on significant growth. We will move into a new building for information technology and engineering in 2002.

Applications, including CV, and a statement of teaching and research interests and goals, should be sent to: CS Faculty Search, Department of Computer Science and Electrical Engineering, University of Maryland Baltimore County, 1000 Hilltop Circle, Baltimore, MD 21250. (phone: 410-455-3500 fax: -3969). Applicants should arrange for three letters of reference to be sent to the same address. Selection of candidates will start immediately, and will continue until all the positions are filled.

Further information about UMBC and the CSEE Department can be obtained through the WWW server http://www.csee.umbc.edu/.

UMBC is an affirmative action/equal opportunity employer.

University of Michigan, Ann Arbor
Computer Science and Engineering
Faculty positions

Applications and nominations are solicited for several junior and senior faculty positions in the Computer Science and Engineering (CSE) Division. Qualifications include an outstanding academic record, a doctorate or equivalent in computer engineering or computer science, and a strong commitment to teaching and research. Candidates from all areas of computer science and engineering will be considered.

The University of Michigan is a Non-Discriminatory/Affirmative Action Employer.

Please send resume and names of three or more references to:
Professor John E. Laird
Associate Chair for Computer Science and Engineering Division and
Chair of the CSE Faculty Search Committee
Department of Electrical Engineering and Computer Science
University of Michigan
1301 Beal Avenue, Room 3402
Ann Arbor, MI 48109-2122
URL: http://www.eecs.umich.edu/cse
You may submit applications and inquiries via email to csesearch@eecs.umich.edu

University of Michigan, Ann Arbor
Computer Science and Engineering
Lecturer Positions

Applications for lecturer positions in Computer Science and Engineering are being accepted immediately for the January 2001 teaching term. Qualifications include an outstanding academic record, a doctorate or equivalent in computer engineering or computer science, and an excellent teaching record. Candidates from all areas of computer science and engineering will be considered.

The University of Michigan is a Non-Discriminatory/Affirmative Action Employer.

Please send resume and names of three or more references to:
Professor John E. Laird
Associate Chair for Computer Science and Engineering Division and
Chair of the CSE Faculty Search Committee
Department of Electrical Engineering and Computer Science
University of Michigan
1301 Beal Avenue, Room 3402
Ann Arbor, MI 48109-2122
URL: http://www.eecs.umich.edu/cse
You may submit applications and inquiries via email to csesearch@eecs.umich.edu

University of Minnesota
Computer Science & Engineering and the Department of Psychology

The University of Minnesota-Twin Cities seeks outstanding candidates for a joint faculty position in Cognitive Science shared between the Department of Psychology in the College of Liberal Arts and the Department of Computer Science and Engineering in the Institute of Technology. Decisions about the tenure home for this position will be determined by a candidate's qualifications and departmental fit. This appointment will be made at the tenure-track Assistant Professor level. Essential qualifications are a PhD in psychology or computer science, or related field, by August 27, 2001, a commitment to quality teaching, and the potential for carrying out outstanding interdisciplinary research.

The successful applicant will be expected to carry on an active program of research and scholarship, and contribute to the education and training of graduate and undergraduate students in both departments. The applicant's research area should be in cognitive science. Specific interests may include: artificial intelligence, pattern recognition, neural networks, computational vision, robotics and motor control, human-computer interaction, speech recognition, computational linguistics/psycholinguistics, computer graphics/perception, and auditory scene analysis. Teaching responsibilities will consist of graduate and undergraduate courses in the curricula of the Departments of Psychology and Computer Science and Engineering. The applicant selected to fill this position will also be expected to contribute to the service needs of the departments, college, and University. Standard teaching and service duties will be divided between the two sponsoring departments. Beginning date for this full-time, nine-month faculty position is August 27, 2001. Salary is competitive and will depend on the candidate's qualifications and experience.

This position announcement is available at http://www.psych.umn.edu or http://www.cs.umn.edu . Information about the departments, facilities, and faculty can also be obtained at these web sites. Interested candidates should submit a curriculum vitae, a 500-word statement of research and teaching interests, selected reprints and preprints, and three letters of evaluation to: Chair, CSE/Psych Search Committee, Department of Psychology, N218 Elliott Hall, 75 East River Road, University of Minnesota, Minneapolis, Minnesota 55455-0344. Review of applications will begin on November 15, 2000 and continue until the position is filled.

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

University of Minnesota-Twin Cities
Department of Computer Science and Engineering

The Department of Computer Science and Engineering at the University of Minnesota invites applications for up to four open faculty positions. These positions are primarily at the assistant professor level, but highly qualified applicants at higher ranks will also be considered. Specialists from all areas of computer science and engineering are encouraged to apply. Requirements include a Ph.D. in computer science or a closely related discipline, a commitment to quality teaching, and the potential for carrying out outstanding research. Senior candidates must possess a distinguished record of teaching, research, and service.

The research and teaching missions of the Department encompass a wide range of areas,

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NORTH CAROLINA STATE UNIVERSITY
DEPARTMENT HEAD
ELECTRICAL AND COMPUTER ENGINEERING

The College of Engineering at North Carolina State University (NCSU) invites nominations and applications for the position of Department Head in Electrical and Computer Engineering. The successful candidate will have an earned Ph.D. in a relevant discipline, exhibit strong qualities of leadership and have a distinguished record of scholarly achievement. The new Head must have the vision and skills to continue leading the Department to its goals of excellence in research, teaching, and extension.

The Department has 50 faculty members, 1200 undergraduates, over 400 graduate students and was ranked # 2 in the Southeast in Ph.D. quality and education and 21st among all institutions in a recent National Research Council report. It offers the BS, MS, and Ph.D. degrees in both electrical engineering and computer engineering. It recently started offering a MS degree in Computer Networking, joint with Computer Science and Management. Current departmental research funding is over $13 million annually. Plans for the future include hiring new faculty in critical areas and the relocation of the Department to Centennial Campus, a joint University-Industry campus/research park.

Organized research activities within the department include The Center for Advanced Electronic Materials Processing (initiated as an NSF Engineering Research Center), the Center for Advanced Computing and Communications (an IUCRC), the Electric Power Research Center (joint with Nuclear Engineering), the Power Semiconductor Research Center, the Center for Robotics and Intelligent Machines, the Center for Embedded Systems Research, and the SRC/Sematech-sponsored Front End Processing Center. The Department has very extensive research facilities, including over 9,000 square feet of clean room; and over $25M of equipment distributed amongst various laboratories (the Electronics Research Laboratory, the Solid State Laboratory, the Biomedical Microsensors Laboratory, the Biomedical Instrumentation Laboratory, the Advanced Diagnosis and Control Laboratory and the Advanced DSP Laboratory). In addition, the Department has extensive computing capabilities including multiple computer and disk servers, as well as widespread workstation and PC facilities.

North Carolina State University is located in Raleigh within the Research Triangle. This region of North Carolina contains one of the nation's premier concentrations of corporate and public research and development. The area offers outstanding opportunities for professional growth and an exceptional quality of life.

Nominations and applications should include a professional resume and at least three appropriate references. To ensure full consideration, applications must be received by January 1, 2001. However, early applications are highly encouraged. Nominations and applications will continue to be accepted until the Department Head is selected. Please send nominations or letters of intent, along with the names of three references and curriculum vitae, to:

**Chairman, Search Committee
for ECE Head
Box 7904
NC State University
Raleigh, NC 27695-7904**

Inquiries may be sent by e-mail to yarbroug@eos.ncsu.edu. Summary information about the department and associated centers can be found at: www.ece.ncsu.edu.

North Carolina State University is an equal opportunity, affirmative action employer. Individuals with disabilities desiring accommodations in the application process should contact the committee, yarbroug@eos.ncsu.edu, 919.515.9968.

Professional Opportunities

including networking and distributed multimedia, internet technologies, databases, software engineering, computer architecture, programming languages, artificial intelligence, robotics and computer vision, computer graphics and visualization, algorithms and complexity theory, computational geometry, human-computer interaction, parallel computing, and scientific computing. Its faculty members have access to outstanding computing facilities both within the Department and at the various research centers on campus, including the Army High Performance Computing Research Center, the Minnesota Supercomputing Institute, and the Institute for Mathematics and its Applications. Additional information about the Department is available at its World Wide Web home page: http://www.cs.umn.edu. The Minneapolis-St. Paul area is a major center for the computer industry and for advanced technology, and the Department enjoys strong interactions with several local companies.

Applicants should submit a curriculum vitae, a research summary, and the names of at least three references to: Chair, Faculty Recruiting Committee, Department of Computer Science and Engineering, University of Minnesota, 4-192 EE/CSci Building, 200 Union St. S. E., Minneapolis, MN 55455. Electronic submissions of applications are welcome and may be sent via e-mail to: applications@cs.umn.edu. (Electronic submissions must be in standard postscript.) Review of completed applications will begin December 15, 2000, but the search will remain open until all positions are filled.

The University of Minnesota is an equal opportunity educator and employer.

University of Minnesota-Twin Cities
Department of Computer Science and Engineering
Senior Faculty Positions in Software Systems

The Department of Computer Science & Engineering (CS&E) at the University of Minnesota invites applications for up to three senior faculty positions in the area of Software Systems from candidates with an outstanding record of research accomplishment. Software Systems is broadly defined to include software engineering, networking, multimedia, internet technology, electronic commerce, computer security, high performance computing, parallel and distributed systems, databases, graphics and visualization, and human-computer interaction. Applicants must possess a distinguished research record, demonstrated ability in establishing and leading a highly visible research program in their area, and a commitment to quality teaching and mentoring at the graduate and undergraduate levels. A Ph.D. in Computer Science or a closely related area is required. The appointment will be at the rank of tenured Associate or Full Professor and will afford the right individuals the opportunity, resources, and flexibility to build a top-notch research program.

These are three of several positions for new faculty members, outstanding in their fields, allocated to CS&E as part of the "digital technology initiative". This initiative affirms the strong commitment of the State of Minnesota in strengthening the University as a leader in the area of digital technology. Construction is now underway on a $56.6 million University-wide Digital Technology Center, funded by the state of Minnesota, in which CS&E and the outstanding new faculty will play a major role. The Digital Technology Center will be the home for the University of Minnesota Supercomputing Institute, the Laboratory for Computational Science and Engineering, the Telecommunications and Advanced Networking Laboratory and a Software Engineering and Internet Technologies Laboratory. The Department has also been identified for significant growth in faculty lines over the next few years, and a concurrent search is underway to fill up to four additional faculty positions this year.

The research and teaching missions of the Department encompass a wide range of areas, including software engineering, networking, multimedia, internet computing, distributed systems, databases, computer architecture, programming languages, artificial intelligence, robotics and computer vision, algorithms and complexity theory, computational geometry, computer graphics, visualization, human-computer interaction, parallel computing, and scientific computing. Its faculty members, currently numbering twenty six, have access to excellent computing facilities both within the Department and at the various research centers on campus, including the Army High Performance Computing Research Center, the Minnesota Supercomputing Institute, and the Institute for Mathematics and its Applications. Annual research expenditures in the Department have been growing steadily over the past several years, and topped $4 million in 1999-00. The Department has a large graduate program, comprising about 250 graduate students, and offers traditional Master's and Doctoral degrees, as well as a specialized Master's degree in Software Engineering. About 60 Master's and 20 Doctoral degrees are

awarded annually. For more information about the Department, its facilities, and faculty, please visit our World Wide Web home page at http://www.cs.umn.edu.

The Minneapolis-St. Paul area is a major center for the computer industry and for advanced technology, and the Department enjoys strong interactions with many local companies.

Applicants should submit a curriculum vitae, a summary of research accomplishments and plans, and the names of at least three references to:
Chair, Faculty Recruiting Committee
Department of Computer Science
and Engineering
University of Minnesota
4-192 EE/CSci Building
200 Union St. S. E.
Minneapolis, MN 55455

Applicants should state clearly in their cover letter that they are applying for the "Senior Faculty Position in Software Systems." Electronic submissions of applications are welcome and may be sent via e-mail to applications@cs.umn.edu. (Electronic submissions must be in standard postscript.) Review of completed applications will begin December 15, 2000, but the search will remain open until the position is filled.

The University of Minnesota is an equal opportunity educator and employer.

University of Nebraska — Lincoln
Computer Science and Engineering Department

The UNL CSE Department invites applications for several tenure-track faculty appointments at assistant, associate, or full professor rank to begin January or August 2001. Applicants should have promise for innovative research and teaching and have a PhD in computer science, computer engineering, or related field.

The CSE Department offers both computer science and computer engineering programs leading to BS, MS, and PhD degrees and has 20 tenured or tenure-track faculty, about 600 undergraduates and 100 graduate students. UNL is Nebraska's comprehensive research university with Carnegie I standing and membership in the American Association of Universities. UNL recently received the second largest gift in its history to establish the JD Edwards Honors Program in Computer Science and Management. In conjunction with this program, the Department has several new named professorships.

Review of applications begins November 1, 2000, and will continue until all positions are filled. A resume, statement of research and teaching interests, and a list of at least three references who will not be contacted prior to applicant consent should be sent to:
Rich Sincovec, CSE Chair
Computer Science and Engineering
Department
University of Nebraska ? Lincoln
Lincoln, Nebraska 68588-0115
See www.cse.unl.edu; email
search@cse.unl.edu; phone 402.472.2401; fax 402.472.7767. The University of Nebraska is committed to a pluralistic campus community through Affirmative Action and Equal Opportunity and is responsive to the needs of dual career couples. We assure reasonable accommodation under the Americans with Disabilities Act; contact Rich Sincovec at (402)472-2401 for assistance.

University of Oklahoma
School of Computer Science

The School of Computer Science at the University of Oklahoma invites applications for at least two faculty positions in areas that would enhance/complement the strengths of the school's existing research programs. Current faculty research interests include computer and telecommunication networks, formal methods in software engineering, functional programming, database systems, fault tolerance and testing, embedded/reconfigurable systems, education in computer science, human-computer interaction, parallel and distributed computing, large scale scientific computing, graph theory and combinatorial optimization, and theoretical computer science. In addition to receiving applications in the above areas, which would enhance our current research programs, applications are also sought in complementing areas including VLSI, molecular/DNA computing, intelligent systems, and others.

Applicants must hold a doctorate in computer science or a related discipline. Applicants at all ranks will be considered. In addition to success in research, all candidates must demonstrate a strong commitment to excellence in teaching at both the undergraduate and graduate levels. Candidates should be highly motivated, energetic, and have demonstrated communication and leadership skills in university and/or industrial settings.

The School of Computer Science offers bachelors, masters and doctoral degrees. About 350 students are enrolled in the undergraduate program, which is CSAB accredited. The school has about 120 graduate students. More information about the school can be found at www.cs.ou.edu.

Norman is a suburb of about 90,000 people within the Oklahoma City metropolitan area (approximate population of 1,000,000). Norman offers award-winning schools, cultural festivals, diverse local industry and an inexpensive cost of living.

Applications with a list of 3 references must be submitted to:
S. Lakshmivarahan, Chair
Faculty Search Committee
School of Computer Science
The University of Oklahoma
200 Felgar Street, Room 114
Norman, OK 73019-6151
Tel: (405) 325-2978
Fax: (405) 325-4044
E-mail: varahan@ou.edu

The preferred start dates are January of 2001 for one position and August 2001 for the other position(s). Applications will be accepted until the positions are filled. The University is an equal opportunity/affirmative action employer. Women and minorities are especially encouraged to apply. OU is responsive to the needs of dual-career couples.

University of Pennsylvania
Department of Computer and Information Science
Faculty Positions

The University of Pennsylvania invites applicants for tenure-track appointments in both experimental and theoretical computer science to start July 1, 2001. Faculty duties include undergraduate and graduate teaching, as well as research.

Successful applicants will find Penn to be a stimulating environment conducive to professional growth. Ground breaking recently took place on a new $15 Million Computer Science Building. The Department of Computer and Information Science has embarked on a strategic plan to add a significant number of tenure-track faculty over the next five years. We seek to expand and broaden both the applied and theoretical sides of our research and teaching program, building on existing strengths in algorithms and computational biology, computer graphics and animation, computer vision and robotics, databases, logic and computation, natural language processing, networks and distributed systems, programming languages, and real time systems.

The University of Pennsylvania is an Ivy League University located near the center of Philadelphia, the 5 th largest city in the US. Within walking distance of each other are its Schools of Arts and Sciences, Engineering, Medicine, Nursing, Law, Business and Fine Arts. The University campus and its surroundings in Philadelphia benefit from a rich diversity of cultural opportunities as well as attractive urban and suburban residential neighborhoods.

To apply, please complete the form located on the Faculty Recruitment Web Site at: http://www.cis.upenn.edu/positions/faculty_application.html.

Electronic applications are strongly preferred, but hard-copy applications (including the names of at least four references) may alternatively be sent to:
Chair, Faculty Search Committee
Department of Computer and
Information Science
School of Engineering and
Applied Science
University of Pennsylvania
Philadelphia, PA 19104-6389

Applications should be received by January 1, 2001 to be assured full consideration.

Applications will be accepted until positions are filled.

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

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

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

University of Pennsylvania
Department of Computer and Information Science
Lecturer Positions

The University of Pennsylvania invites applicants for the position of Lecturer in Computer Science, to start July 1, 2000. Lecturer duties include undergraduate and masters level teaching. The position is for one year and is renewable annually up to three years.

Successful applicants will find Penn to be a stimulating environment conducive to professional growth. In Spring 2000, ground breaking will take place on a new $15 Million Computer Science Building. The Department of Computer and Information Science is embarking on a strategic plan to add a significant number of tenure-track faculty over the next five years. We seek to expand and broaden both the applied and theoretical sides of our research and teaching program, building on existing strengths in algorithms and computational biology, computer graphics and animation, computer vision and robotics, databases, logic and computation, natural language processing, networks and distributed systems, programming languages, and real time systems.

The University of Pennsylvania is an Ivy League University located near the center of Philadelphia the 5th largest city in the US. Within walking distance of each other are its Schools of Arts and Sciences, Engineering, Medicine, Nursing, Law, Business and Fine Arts. The University campus and its surroundings in Philadelphia benefit from a rich diversity of cultural opportunities as well as attractive urban and suburban residential neighborhoods.

To apply, please complete the form located on the Faculty Recruitment Web Site at: http://www.cis.upenn.edu/positions/faculty_application.html.

Electronic applications are strongly preferred, but hard-copy applications (including the names of at least four references) may alternatively be sent to:
Chair, Lecturer Search Committee
Department of Computer and
Information Science
School of Engineering and
Applied Science
University of Pennsylvania
Philadelphia, PA 19104-6389

Applications should be received by March 1, 2001 to be assured full consideration.

Applications will be accepted until positions are filled.

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

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

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

University of Pittsburgh
Department of Computer Science

The Department of Computer Science at the University of Pittsburgh is initiating a search for four tenure track positions and one non-tenure track position effective September 2001, subject to budgetary approval. We seek to fill the four tenure track positions at the Assistant Professor level, but higher level appointments are possible for qualified candidates. The non-tenure track position is at the lecturer level. All applications from experienced scholars with outstanding records of accomplishment and intellectual leadership are encouraged. The University of Pittsburgh is an Affirmative Action, Equal Opportunity Employer. Women and members of minority groups who are under-represented in academia are especially encouraged to apply.

Outstanding candidates are sought in all areas of Computer Science including but not limited to: algorithms/theory, artificial intelligence, distributed systems, databases, networks, programming languages, and software engineering. One of the four tenure-track positions is joint with the Learning Research and Development Center and is specifically designated to the areas of computer tutoring, natural language processing and collaboration. Responsibilities include research, supervision of graduate student research (PhD and MS), and graduate and undergraduate teaching. Candidates should have a PhD in Computer Science and demonstrate exceptional research potential and teaching ability.

The Lecturer position is to be filled by an outstanding teacher. Candidates for this position should preferably have a PhD, although applicants with an MS in Computer Science and with other suitable qualifications in advising of students and in curriculum design and management will be considered.

Candidates should send a curriculum vitae, a statement of research and teaching interests, and names and addresses of at least three references to Professor Rami Melhem, Chair, Department of Computer Science, University of Pittsburgh, Pittsburgh, PA 15260. Please direct your inquiries to:
faculty-search@cs.pitt.edu. Applications must be received by January 15, 2001 to ensure full consideration.

The Department provides a stimulating environment for research and teaching that results in strong graduate and undergraduate programs. The Department already has strengths in artificial intelligence, programming languages, algorithms/theory, parallel and distributed systems, and software systems and engineering. Departmental resources include extensive computing facilities of over 300 workstations and personal computers with multimedia capabilities and specialized networks and devices. Faculty members also have network access to additional high performance computing platforms provided by the general computing facilities of the University as well as by the Pittsburgh Supercomputer Center (of which the University of Pittsburgh is a founding member). For further information about the Department please see http://www.cs.pitt.edu.

University of Puget Sound
Department of Mathematics and Computer Science

Two full-time, tenure-line positions; begin Fall Term 2001. Assistant Professor (one may be filled at Associate Professor rank). Teach

Professional Opportunities

junior/senior-level courses in computer science, along with introductory courses. Three courses/semester. Ph.D. (ABD considered) in computer science or closely related field, and commitment to undergraduate teaching and liberal arts education. Preference will be given to candidates whose research interests can incorporate or generate undergraduate research projects. Submit interest letter, resume and three reference letters to be received by January 23, 2001 to: Computer Science Search, University of Puget Sound, P.O. Box 7297, Tacoma, WA 98406.

The University of Puget Sound is an equal opportunity, affirmative action educator/employer.

University of Richmond
Mathematics and Computer Science Department

Applications are invited for two tenure track Computer Science positions beginning January or August 2001. Appointments are expected to be at the Assistant Professor level, but rank will be determined by appropriate experience. A Ph.D. in Computer Science is required. Candidates should have a commitment to excellence in undergraduate teaching together with the ability to maintain an active research program, preferably involving undergraduate students.

The University of Richmond is a predominately undergraduate, highly selective, private institution enrolling 3,500 students in schools of Arts and Sciences, Business, Leadership Studies, Law, and Continuing Studies. The Mathematics and Computer Science Department consistently attracts high-quality majors; majors have won awards for best student research projects at four the last five annual UR Student Symposia.

Applicants should provide a current curriculum vitae, a statement detailing teaching philosophy and research interests, and copies of graduate and undergraduate transcripts to Dr. Lewis Barnett, Math & CS Dept., University of Richmond, VA 23173. Samples of written work (preprints/reprints) are welcome. Applicants should also arrange for three letters of recommendation to be sent to Dr. Barnett. Electronic submissions are acceptable in Postscript, PDF, or common word processor formats. (Send to lbarnett@richmond.edu)

Additional information may be found on the Web at http://www.mathcs.richmond.edu/csjobs/

Consideration of completed applications will begin immediately and continue until the positions are filled. The University of Richmond is an Equal Opportunity Employer. Women and minorities are especially encouraged to apply.

University of San Diego
Department of Mathematics and Computer Science

The University of San Diego, an independent Catholic University of about 7,000 students, invites applications for a tenure-track Assistant Professor of Computer Science, to begin September, 2001. Candidates must have a Ph.D. in Computer Science or a closely related field. The teaching load is effectively 3 three-hour undergraduate courses per semester. Faculty are expected to have a strong commitment to excellence in teaching and to maintain active scholarly pursuits. Send resume, three letters of recommendation, and a summary of recent teaching evaluations to:
Dr. John Glick, Chair
CS Search Committee
Department of Mathematics and
Computer Science
University of San Diego
5998 Alcala Park
San Diego, CA 92110
USD is an AA/EOE employer.
Applications will be accepted until January 15, 2001, with review of applications beginning November 1, 2000, and continuing until the position is filled or the search is declared closed. For information on the status of the search, see http://www.acusd.edu/math-cs/ or contact the chair of the search committee at glick@acusd.edu.

University of South Carolina
The University of South Carolina Salkehatchie Regional Campus invites applications for faculty position in computer science. Review will begin October 23, 2000 with expected hire date January 2001. Minimum requirement, master's degree with 18 graduate hours in discipline. Ph.D. required for tenure tract appointment. Salary commensurate with experience and credentials. Salkehatchie is a commuter campus serving a rural area, centrally located to major metropolitan areas with two campus teaching sites, in Allendale and Walterboro. Send letter of application, resume, transcripts, and three letters of professional reference to: Computer Search, Office of Human Resources, USC Salkehatchie Regional Campus, P.O. Box 617, Allendale, SC 29810. E-mail Human Resources Office pattyw@gwm.sc.edu 803-584-2446. The University of South Carolina is an EEO/AA Employer. Foreign

nationals should indicate current U.S. immigration status.

University of San Francisco
Department of Computer Science

The Department of Computer Science at The University of San Francisco (USF) invites applications for a tenure-track position at the Assistant Professor level, to begin Fall 2001.

Further details on the position are available online at:
http://www.cs.usfca.edu/job.html. USF is an AAEOE.

University of Texas at Arlington
Computer Science and Engineering Department
Multiple tenure-track faculty positions

The University of Texas at Arlington (UTA), Computer Science and Engineering (CSE) Department - CSE@UTA invites applications for multiple tenure-track faculty positions at assistant or associate professor levels. Applicants with expertise in the following areas are preferred: software engineering; systems including architecture, distributed and high-performance computing; networks and telecommunications; database and data mining; and applied theory. UTA, part of The University of Texas System, is located in the heart of the rapidly growing Dallas/Fort Worth area, one of the nation's largest high-technology regions, with a flourishing industrial base and excellent opportunities for industry/university collaboration.

We at CSE@UTA are committed to excellence in research, teaching, and community service. We recently kicked off a "Top 25 Initiative" with the goal of reaching a national top 25 ranking. The initiative is strongly supported by all CSE@UTA stakeholders including the UTA administration, our students and alumni, and our industry partners. The highlights of the Top 25 Initiative include significant increase in tenure track faculty positions and PhD students; significant increase in research funds; and establishment of endowed student fellowships, endowed faculty chairs, and industry-sponsored laboratories.

Applicants for an assistant professor position must have an earned doctorate in computer science, computer engineering, or closely related fields and a commitment to teaching and scholarly research. Applicants for an associate professor position must have demonstrated an excellent record of professional accomplishments in their field of expertise. The faculty openings are anticipated for September 2001. Screening of applications will begin immediately and will continue until all positions are filled. Interested persons should send a resume and reference letters to Chair of Search Committee, Department of Computer Science and Engineering, P.O. Box 19015, Arlington, TX 76019-0015. Phone: 817-272-3605. FAX: 817-272-3070. Email: search@cse.uta.edu. http://www-cse.uta.edu.

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

University of Texas at Austin
Department of Computer Sciences
Tenure Track Positions

The Department of Computer Sciences of the University of Texas at Austin invites applications for tenure-track positions. We are particularly interested in candidates at the assistant professor level in the areas of systems, compositional and component-based software development, intelligent robotics, or graphics, but excellent candidates in all areas and at all levels will be seriously considered. All tenure-track positions require a Ph.D. or equivalent degree in computer science or a related area at the time of employment. Successful candidates are expected to pursue an active research program, perform both graduate and undergraduate teaching, and supervise graduate students.

The department is ranked among the top ten computer science departments in the country. It has 36 tenure-track faculty members across all areas of computer science, and participates in the University's Computational and Applied Mathematics interdisciplinary program. Austin, the capital of Texas, is located on the Colorado River, at the edge of the Texas Hill Country, and is famous for its live music and outdoor recreation. Austin is also a center for high-technology industry, including companies such as IBM, Dell, Motorola, Sematech, AMD, MCC, Tivoli, Trilogy, Dejanews, and Origin Systems. For more information please see the department web page: http://www.cs.utexas.edu/.

To apply, please send a curriculum vita, description of research interests, and selected publications, and ask three referees to send letters of reference directly to:
Faculty Search Committee
Computer Science Department
University of Texas at Austin
Austin, Texas 78712 USA
Inquiries about your application may be directed to:
faculty-search@cs.utexas.edu

Evaluation of applications will be done throughout the academic year until available positions are filled. Candidates are encouraged to apply early; applications received after January 15, 2001 will only be considered if positions remain available. Women and minority candidates are especially encouraged to apply. The University of Texas is an Equal Opportunity Employer.

University of Texas at Austin
Computer Sciences Department
Lecturer Positions

The Computer Sciences Department at the University of Texas at Austin invites applications from outstanding computer science educators for positions as Lecturer or Senior Lecturer. We are interested in candidates who wish to pursue a career primarily in teaching. Instructional opportunities are available at all levels: service courses, introductory courses, and upper-division courses for CS majors. A doctoral degree in Computer Science, Computer Science Education, or closely related field is preferred, but a Masters degree in Computer Science with extensive teaching experience will also be considered. Successful candidates are expected to participate in curriculum development and monitoring, organization o f new courses, professional organizations and professional development.

The department is ranked among the top ten computer science departments in the country. It has 36 tenure-track faculty members across all areas of computer science and 23 lecturers who concentrate on undergraduate education and computer science education research. The department also participates in many interdisciplinary programs across the university.

Austin, the capital of Texas, is located on the Colorado River, at the edge of the Texas Hill Country, and is famous for its live music and outdoor recreation. Austin is also a center of high-technology industry, including IBM, Dell, Motorola, AudioGalaxy, Cyber Database Solutions, Tivoli, Reactivity, MUL-TEK, National Instruments, and many others. For more information please see the department web page: http://www.cs.utexas.edu/

For instructions on submitting an application, please see: http://www.cs.utexas.edu/lecturer-search or send email to lecturer-search@cs.utexas.edu Inquiries about your application should also be directed to:
lecturer-search@cs.utexas.edu
Evaluation of applications will be done throughout the academic year until available positions are filled. Candidates are encouraged to apply early; applications received after February 1, 2001 will only be considered if positions remain available. Women and minority candidates are especially encouraged to apply. The University of Texas at Austin is a Equal Opportunity Employer.

University of Utah
School of Computing
Non-tenure Teaching Faculty Position

The University of Utah's School of Computing seeks applicants for a non-tenured teaching-track faculty position at the instructor, assistant, or associate professor level. Over the next three years, the School intends to greatly increase the number of undergraduate majors, establish programs targeted toward working professionals, develop introductory computing classes appropriate for students from across the campus, and increase its staff of teaching-track faculty from two to four. The ideal candidate will have strong academic background in computer science or allied field (Ph.D. strongly preferred), practical experience in the computer industry, a demonstrated proficiency in teaching, and a keen interest in curriculum development. A teaching appointment in the School of Computing is a separate career path from the regular tenure track. The successful applicant will work with two other faculty members on the teaching track who have been on the School of Computing faculty for 18 and 13 years, respectively. The University of Utah is located in Salt Lake City, the hub of a large metropolitan area with excellent cultural facilities and unsurpassed opportunities for outdoor recreation only a few minutes drive away. Additional information about the department can be found at http://www.cs.utah.edu. Please send curriculum vitae, a teaching goals statement, and names and addresses of at least four references to:
Teaching Faculty Recruiting Committee
c/o Shawn Darby
School of Computing
50 So. Central Campus Drive
Rm3190 MEB
University of Utah
Salt Lake City, UT 84112-9205.
The University of Utah is an Equal Opportunity, Affirmative Action Employer and encourages nominations and applications from women and minorities, and provides reasonable accommodation to the known disabilities of applicants and employees.

University of Virginia
Department of Computer Science

The University of Virginia's Department of Computer Science invites applications for tenure track and tenured faculty positions. Outstanding candidates in all areas of Computer Science will be considered. Research faculty (non tenure- track) openings of all ranks are also available. The Department has a first rate experimental computer science research program and has in place an innovative undergraduate CS curriculum. We are looking for candidates who are or have the potential to become outstanding in both research and teaching. Ph.D. required. Positions open until filled. Salary commensurate with experience.

Send a resume and the names of three references to Professor Jack Stankovic, Chair, Department of Computer Science, 151 Engineer's Way, P.O. Box 400740 University of Virginia, Charlottesville, VA 22904-4740.

The University of Virginia is an Equal Opportunity/Affirmative Action Employer. http://www.cs.virginia.edu

University of Washington, Tacoma
Computing & Software Systems Program

The Computing and Software Systems Program at the University of Washington, Tacoma has openings for appointment at the tenure-track levels of Assistant Professor, Associate Professor, and Professor. We will also consider candidates for appointment at the non-tenure-track levels of Lecturer or Senior Lecturer. Priority is in tenure-track appointments. Requirements for the tenure-track positions are a Ph.D. in Computer Science or a closely related discipline. Requirements for non-tenure-track positions are at least an MS in Computer Science or a closely related discipline. All appointments require quality teaching. Tenure track positions also require continuing research. Associate Professor and Professor candidates must have a record of published research in computing. Non-tenure-track appointments are renewable.

Our recruiting emphasis is on software engineering, systems, networks, database systems, and enterprise applications, but we will consider strong candidates in all areas of computing.

The Tacoma campus of the University of Washington, in its ninth year of operation, is located thirty-five miles south of Seattle in Tacoma's historic warehouse district. Faculty and students at the University of Washington, Tacoma, while working within a smaller distinctive institution experiencing rapid growth, benefit as well from the many resources of the Seattle and Bothell campuses of the University of Washington.

Preference will be given to the first applications received, beginning formal reviewing October 15. However, all applications will be considered until the positions are filled. Salary is competitive and will be commensurate with experience and qualifications.

The University of Washington, an equal opportunity/affirmative action employer, is building a culturally diverse faculty and strongly encourages application from female and minority candidates.

Candidates should send a curriculum vitae, three letters of reference, and evidence/discussion of teaching experience/effectiveness and research interests to:
University of Washington, Tacoma
Finance and Administration
Computing and Software Systems Faculty
Search
Box 358431
1900 Commerce Street
Tacoma, WA 98402-3100
Email: lcrum@u.washington.edu
FAX: (253) 692-4424

University of Waterloo
Associate Director of Software Engineering

The Software Engineering Board invites applications for a five-year, definite-term position as Associate Director at the rank of Lecturer, with the possibility of the appointment being converted to a permanent position. A candidate must possess a graduate degree in Software Engineering, Computer Science or Computer Engineering, and must be willing to seek Ontario registration as a Professional Engineer. The candidate must also demonstrate an aptitude for outstanding teaching in software engineering or related area. Industrial experience is desirable. The appointment could start as early as January 2001. Applications will be considered until the position is filled.

Software Engineering is a new and distinctive professional, undergraduate program at Waterloo, jointly established by the Departments of Computer Science and Electrical and Computer Engineering. Our undergraduate programs attract some of the best students in the country. Excellent offices, laboratories, and computing facilities, and attentive support staff provide for a productive work environment.

Professional Opportunities

The role of the Associate Director is to help administer the Software Engineering program. Primary duties include teaching, academic advising, organizing study groups, promoting the program, and assuming leadership of a number of administrative tasks. Scholarly activities, such as professional development and/or participation in research, are also expected.

In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents. The University of Waterloo encourages applications from all qualified individuals including women and members of visible minorities, native peoples, and persons with disabilities.

Interested candidates are invited to submit a detailed curriculum vitae, statement of career objectives, and the names and e-mail addresses of three references. Supporting letters should indicate the applicant's range of teaching interests, expertise and experience. Please direct applications to: Dr. Joanne Atlee, Director of Software Engineering, University of Waterloo, Waterloo, Ontario Canada N2L 3G1 (se-director@uwaterloo.ca). Candidates should ask those named as references to direct supporting letters to the same address.

This appointment is subject to the availability of funds.

University of Waterloo
Software Engineering

The Software Engineering Board invites applications for a five-year, definite-term position at the rank of Lecturer, with the possibility of the appointment being converted to a permanent position. A candidate must possess a graduate degree in Software Engineering, Computer Science or Computer Engineering, and must be willing to seek Ontario registration as a Professional Engineer. The candidate must also demonstrate an aptitude for outstanding teaching in software engineering or related area. Industrial experience is desirable. The appointment could start as early as January 2001. Applications will be considered until the position is filled.

Software Engineering is a new and distinctive professional, undergraduate program at Waterloo, jointly established by the Departments of Computer Science and Electrical and Computer Engineering. Our undergraduate programs attract some of the best students in the country. Excellent offices, laboratories, and computing facilities, and attentive support staff provide for a productive work environment.

The successful applicant will be expected to support the new software engineering program. Primary duties include teaching, academic advising, managing labs and study groups, and helping to promote the program. There will be some administrative responsibilities. Scholarly activities, such as professional development and/or participation in research, are also expected.

In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents. The University of Waterloo encourages applications from all qualified individuals including women and members of visible minorities, native peoples, and persons with disabilities.

Interested candidates are invited to submit a detailed curriculum vitae, statement of career objectives, and the names and e-mail addresses of three references. Supporting letters should indicate the applicant's range of teaching interests, expertise and experience. Please direct applications to: Dr. Joanne Atlee, Director of Software Engineering, University of Waterloo, Waterloo, Ontario Canada N2L 3G1 (se-director@uwaterloo.ca). Candidates should ask those named as references to direct supporting letters to the same address.

This appointment is subject to the availability of funds.

University of Western Ontario
Department of Computer Science

The University of Western Ontario, a top-tier research University in Canada, is actively expanding its activities in Computer Science. Applications are invited for tenure-track positions at the level of Assistant or Associate Professor.

The department currently comprises 30 faculty in teaching and research positions. Degrees at the BSc, MSc and PhD levels are offered in Computer Science, as well as degrees with specialization in Software Engineering. Research in the department spans topics in the fundamental areas of computer science, as well as emerging subjects such as molecular computing, legal issues in computing, network quality of service, and web technologies (see www.csd.uwo.ca/research for more details).

Links with the Faculties of Law, Information and Media Studies, Ivey School of Business and with various departments allow the department to offer its students unique courses and foster interdisciplinary research opportunities for faculty and graduate students. Major research projects are funded by international, federal, provincial and private sector sources. New faculty are invited to participate in existing research projects, and to initiate projects of their own.

With a full-time enrollment of about 25,000, The University of Western Ontario graduates students from a full range of academic and professional programs. The university campus is located in London, a city of 340,000, located midway between Toronto and Detroit. With parks, tree-lined streets and bicycle trails, London is known as the "Forest City". An international airport, galleries, theatre, music and sporting events are to be found, as would be expected of a larger centre (see www.city.london.on.ca).

The closing dates for applications are the second Friday of each month until August 10, 2001. Candidates should have a PhD in Computer Science or Software Engineering and must show evidence of a strong research program and commitment to teaching. Priority will be given to candidates who build on existing strengths of the department, or who can establish leading projects in new areas. Successful candidates will teach in both the graduate and undergraduate programs of the department and pursue a strong, individually-defined research program.

To apply, please send a CV, a statement of your teaching philosophy and three representative publications to:

Prof Stephen M. Watt, Chair
Department of Computer Science, MC355
The University of Western Ontario
London, Ontario, CANADA N6A 5B7
Positions are subject to budget approval.
The University of Western Ontario is committed to employment equity, welcomes diversity in the workplace, and encourages applications from all qualified individuals, including women, members of visible minorities, aboriginal persons and persons with disabilities.

University of Wisconsin-Milwaukee
Computer Science

The Computer Science Program at the University of Wisconsin-Milwaukee is seeking qualified candidates to fill several tenure track faculty positions. We invite applications from strong candidates at all levels and in all areas of Computer Science, subject to the needs of the Department. All candidates for faculty positions should have a demonstrated promise in research and teaching in Computer Science. Senior candidates should have excellent research records.

The Computer Science Program at UWM is poised for continued development. Our Program has an excellent record in hiring outstanding junior faculty and in helping them develop their careers. As of this Fall, all eligible faculty in the Program have received the NSF Early CAREER Awards. The Program faculty are engaged in research projects that span many areas including Artificial Intelligence, Computational Geometry, Computer Graphics, Cryptography and Data Security, Distributed Systems, and Programming Languages and Software Systems. Many of the projects include collaborative work with researchers from other academic units, institutions and industrial organizations.

Our University, the home of about 24,000 students, is located in a very pleasant residential neighborhood near the shores of Lake Michigan. Our location in a major metropolitan area helps facilitate easy interactions with industry and affords many cultural and recreational activities.

Screening of all candidates will begin November 15, 2000 and continue until the positions are filled. Female and minority candidates are strongly encouraged to apply. Faculty applications must be accompanied by a statement of plans for research and teaching. Please visit our website at: http://www.cs.uwm.edu for periodic updates on the status of our recruitment.

Applicants should send a vita along with the names of at least three references to Dr. Hossein Hosseini, Faculty Recruitment Coordinator for Computer Science, Department of Electrical Engineering and Computer Science, University of Wisconsin-Milwaukee, PO Box 784, Milwaukee WI 53201. E-mail: hosseini@uwm.edu, Phone: 414/229-5184.

UWM is an Affirmative Action Equal Opportunity employer. The names of those who have not requested that their identities be withheld and the names of all finalists will be released on request.

University of Washington, Bothell
Computing and Software Systems
Assistant, Associate & Full Professor Positions
http://www.bothell.washington.edu/CSS

The Computing & Software Systems (CSS), an innovative and growing computer science program at the University of Washington, Bothell (UWB) has multiple openings for tenure-track faculty. Candidates will have a doctorate (required prior to date of appointment) in a relevant field. Well-qualified candidates in all related areas are encouraged to apply. For more information please refer to our full advertisement at: http://www.washington.edu/admin/eeo/ads/css1.nov15-ouf.0.html . To apply, please send a cover let-

ter, statement of teaching philosophy, statement of research interests, and vita. Also, please arrange for three letters of reference to be sent to: Janet McDaniel; Coordinator, CSS Search Committee; University of Washington, Bothell; Campus mail: Box 358534; 18115 Campus Way NE; Bothell, WA 98011-8246.

The University of Washington is building a culturally diverse faculty and strongly encourages applications from female and minority candidates. Review of applications will begin November 15, 2000, and positions will remain open until they are filled. The University of Washington is an Equal Opportunity/
Affirmative Action Employer.

Virginia Military Institute
Department of Mathematics and Computer Science
Tenure Track Assistant Professor

Applications are invited for a tenure track Assistant Professor position in computer science beginning 1 August 2001. A Ph.D. in computer science is required. Candidates should have demonstrated excellence in teaching and an ongoing program of scholarly activity. Candidates are expected to have a strong interest in undergraduate teaching. The successful candidate will teach a wide variety of undergraduate courses. The ability to teach some math is a plus. Faculty members are expected to participate in advising and committee work. Members of the faculty wear uniforms and adhere to military customs, but Military experience is not required. Applicants should submit a letter stating their professional goals and teaching interests, a curriculum vitae, official transcripts, and three letters of recommendation to Michael J. Tierney, Chair, Department of Mathematics and Computer Science, Virginia Military Institute, Lexington, VA 24450. At least one of the letters must address teaching effectiveness. Closing date for completed applications will be 1 December 2000.

VMI is an AA/EEO employer.

Washington University in Saint Louis
Department of Computer Science
www.cs.wustl.edu

Applications are invited for tenure-track faculty positions at the Assistant, Associate and Full Professor levels. Applicants should hold a doctorate in Computer Science or a closely related field, have a record of accomplishment in research, and demonstrate a strong commitment to teaching.

Building upon the impressive recruiting successes of the last two years that included eight new tenure-track faculty, the Department plans to fill three additional faculty positions. The Department continues to seek outstanding candidates likely to develop synergistic relationships with existing areas of research excellence. Academic couples seeking to co-locate are strongly encouraged to apply. Research groups in search of a highly supportive institutional environment may also want to consider relocating to Washington University. With the strong backing of the University and the School of Engineering and Applied Science, the Department is committed to making significant investments in promising new areas of study and to providing the kind of resources and environment that will enable new faculty members to flourish intellectually. Candidates with a strong background in networking (including wireless communication and security), software systems (particularly embedded systems, mobile computing and database), computer engineering, theory, and artificial intelligence will receive special consideration.

The Department enjoys a great research reputation and impressive levels of research activity, e.g., annual research expenditures recently reached a record $450,000 per faculty member. Research areas which are well represented in the Department include: networking and communications; distributed software systems; graphics and computer vision; artificial intelligence; computer and system architecture; and computational biology. Our doctoral graduates have been heading for successful careers in academia and industrial research centers while noteworthy entrepreneurial endeavors spearheaded by our faculty and graduates (with the full support of the University) attest to a highly respected technology transfer tradition and culture. Strict limits on University undergraduate enrollments, combined with the increasing popularity of Washington University, allows the Department to continue to offer small classes and close personal attention to a diverse student body of exceptional quality and to benefit from strong participation by undergraduates on a wide range of research projects. A faculty known for its friendly, accepting and supportive nature provides a welcoming and mentoring environment for new arrivals. Finally, progressive fiscal policies that reward research, teaching, and innovation by the Department have created an environment rich in resources that fosters a readiness to invest in promising new initiatives.

Washington University is a leading private national university recognized for its world class intellectual contributions (20 Nobel Prize Laureates have been associated with the University), its exceptional resources (an endowment of $3.5 billion, among the largest in the nation), its ambitious investments in physical facilities, and its commitment to research excellence. The University is located in the midst of a delightful residential community which places much value on education and culture and is very popular with both faculty and students.

Qualified applicants should send a curriculum vita and the names and addresses of at least three references to Dr. Catalin Roman, Chairman, Department of Computer Science, Campus Box 1045, Washington University, One Brookings Drive, St. Louis, MO 63130-4899.

Applications will be considered as they are received. Those received after February 1, 2001, may not receive full consideration. Washington University is an equal opportunity/affirmative action employer.

Western Connecticut State University
Computer Science
Tenure Track Faculty Openings - Fall 2001

WCSU is seeking a candidate in Computer Science to teach course in networks as well as other CS courses such as C++ programming, Operating Systems, etc. Other duties include: maintaining and developing the CS curriculum, academic advisement, university and department committee work and continued research. Some night teaching is expected of all faculty members in the department. Appointed academic rank dependent on candidate's background and experience. Ph.D. in CS is preferred; but candidates with a doctorate in a related field and a Master's degree CS will be considered. Preference will be given to candidates who can demonstrate strong teaching ability.

Send a cover letter, a current vita, undergraduate and graduate transcripts, three letters of recommendation (with telephone numbers) along with a statement of teaching philosophy, evidence of research productivity to: CS Search Committee, Department of Mathematics & Computer Science Western Connecticut State University, 181 White St., Danbury, CT 06810. E-mail submissions (in either Microsoft or plain ASCII format) may be sent to: cssearch@rosetta.wcsu.ctstateu.edu. Application review will begin on January 22, 2001, and be continued until the position has been filled. All application materials must be received by the January 22 deadline for the application to receive consideration in the first round of screening. WCSU is an AA/EEO Educator/Employer.

Worcester Polytechnic Institute
Computer Science Department

The Computer Science Department of WPI expects to hire two tenure track faculty, and up to two visiting professors, beginning August 2001. Candidates should have a Ph.D. in Computer Science or a closely related field, and strength in both research and teaching. We are interested in excellent candidates at ALL ranks who complement and enhance our existing research in Artificial Intelligence, Databases, Information Systems, Software Engineering, Systems/Networks, Theory/Algorithms, and Visualization/Graphics. Preference will be given to candidates in the areas of Software Engineering and Programming Languages.

The department offers a collegial, supportive environment, with mechanisms established to encourage interdisciplinary activities. A combination of low teaching loads, WPI's innovative project-based curriculum, and a growing graduate program supports faculty research and provides a dynamic environment for working with students. The department grants the B.S., M.S. and Ph.D. degrees in Computer Science and currently has over one hundred full-time M.S. and Ph.D. Students.

WPI is close to numerous Boston-area high-tech companies (along the I-495 corridor); it is three miles from a thriving bio-technology industrial park and offers ample opportunities for industrial interaction.

To apply, submit a letter of application, resume and the names, postal addresses and e-mail addresses of three references to:
Recruiting Committee
Computer Science Department
WPI
100 Institute Road
Worcester, MA 01609-2280
Questions about the hiring process, as well as electronic applications (in postscript, ascii or MS Word) should be addressed to recruit@cs.wpi.edu. For further information about the university please see the WPI Computer Science department web site at: http://www.cs.wpi.edu
To enrich education through diversity, WPI is an affirmative action, equal opportunity employer.

Professional Opportunities

Yale University
Computer Science Department

The Yale Computer Science Department is looking for highly qualified candidates for junior faculty positions beginning in the 2001-2002 academic year. We seek to expand and broaden both the applied and theoretical sides of our research and teaching program, building on existing strengths in algorithms and complexity theory, artificial intelligence, computational science and applied mathematics, computer engineering, distributed computing, machine learning, programming languages and compilers, security and cryptology, and vision and robotics.

Strong candidates in all areas will be considered; high-priority areas include artificial intelligence, vision and robotics, computational biology, databases, electronic commerce and market-based computation, graphics and multimedia, and networking. Applicants are expected to excel in both research and teaching. They will find many opportunities for research collaborations both inside and outside the Computer Science department. Interdisciplinary work is encouraged, with Yale's world-class faculty in such computationally active fields as biology, chemistry, economics, engineering, geophysics, management, mathematics, medicine, psychology, physics, and statistics. Yale faculty regularly have the opportunity to teach excellent students, both graduate and undergraduate, in relatively small classes.

Candidates should hold a Ph.D. in computer science or related discipline. Applications submitted by February 1, 2001 will be given highest priority. Our home page may be found at www.cs.yale.edu. Send vitae and have at least three letters of reference sent to: Faculty Recruiting Committee, Department of Computer Science, Yale University, P.O. Box 208285, New Haven, CT 06520-8285. Qualified women and minority candidates are encouraged to apply. Yale is an affirmative action/equal opportunity employer.

York University
Department of Computer Science
Faculty Positions in Computer Science

The Department of Computer Science invites applications for a number of tenure-track and/or contractually limited term positions in Computer Science. Appointments could be made as early as January 1, 2001 but the majority of the positions are expected to be filled by July 1, 2001. The Department plans to increase its overall strengths and has particular interest in attracting faculty in the areas of· software systems, including compilers, programming languages, parallel systems, distributed systems, concurrent systems, networks, operating systems, software engineering, databases and other closely-related areas;· artificial intelligence, vision, graphics and robotics;· parallel algorithms and architectures;

But excellent candidates from all areas are encouraged to apply. For applicants for junior positions, a recent doctoral degree in Computer Science is required and the applicant must demonstrate strong potential for excellence in research and teaching at both the graduate and undergraduate levels. Applicants for more senior positions must demonstrate an outstanding commitment to research and teaching in Computer Science.

The Department of Computer Science at York includes over 30 faculty members, and is scheduled to move to a new Computer Science building in fall 2001. The department offers a full range of graduate and undergraduate programs. Located in Metropolitan Toronto, York University is the third largest university in Canada. For further information concerning the department see http://www.cs.yorku.ca.

Applications, with curriculum vitae and the names of four references should be sent to:
Michael Jenkin, Computer Science Search Committee Chair, Department of Computer Science, Faculty of Pure and Applied Science, York University, 4700 Keele Street, 126 CCB, Toronto, ON, Canada M3J 1P3.

Applications should be received by January 15, 2001 for appointments to be made for July 1, 2001. Applications received after January 15, 2001 may also be considered if positions are still available.

For many years, York University has had a policy of employment equity including affirmative action for women faculty and librarians. Recently, York has included racial/visible minorities, persons with disabilities and aboriginal peoples in its affirmative action program. Persons who are members of one or more of these three groups are encouraged to self identify during the selection process. Please note that candidates from these three groups will be considered within the priorities of the affirmative action program only if they self identify. The Computer Science Department welcomes applications from women, racial/visible minorities, and persons with disabilities and aboriginal peoples. The affirmative action program can be found on York's web site at http://www.yorku.ca or a copy can be obtained by calling the affirmative action office at (416) 736-5713.

In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.

York University
Department of Computer Science
Faculty Positions in Computer Engineering

York University is in the process of establishing new undergraduate programs in Engineering. As part of this expansion, York University invites applications for a number of tenure-track and/or contractually limited term positions in Computer Engineering. Appointments could be made as early as January 1, 2001 but the majority of the positions are expected to be filled by July 1, 2001. For applicants for junior positions, a recent doctoral degree in Computer or Electrical Engineering is required and the applicant must demonstrate strong potential for excellence in research and teaching at both the graduate and undergraduate levels. Applicants for more senior positions must demonstrate an outstanding commitment to research and teaching in Computer Engineering.

The Computer Engineering program is housed within the Department of Computer Science at York University, which includes over 30 faculty members, and is scheduled to move to a new building in fall 2001. Located in Metropolitan Toronto, York University is the third largest university in Canada. For further information concerning the department see http://www.cs.yorku.ca.

Applications, with curriculum vitae and the names of four references should be sent to:
Michael Jenkin, Computer Engineering Search Committee Chair, Department of Computer Science, Faculty of Pure and Applied Science, York University, 4700 Keele Street, 126 CCB, Toronto, ON, Canada M3J 1P3.

Applications should be received by January 15, 2001 for appointments to be made for July 1, 2001. Applications received after January 15, 2001 may also be considered if positions are still available.

For many years, York University has had a policy of employment equity including affirmative action for women faculty and librarians. Recently, York has included racial/visible minorities, persons with disabilities and aboriginal peoples in its affirmative action program. Persons who are members of one or more of these three groups are encouraged to self identify during the selection process. Please note that candidates from these three groups will be considered within the priorities of the affirmative action program only if they self identify. The Computer Science Department welcomes applications from women, racial/visible minorities, persons with disabilities and aboriginal peoples. The affirmative action program can be found on York's web site at http://www.yorku.ca or a copy can be obtained by calling the affirmative action office at (416) 736-5713.

In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.

Congress Passes H1-B Legislation; Universities Exempted from Caps

On October 3 the House and Senate both passed a bill to expand the H1-B visa program for skilled nonimmigrant workers. The legislation would raise the caps on H-1B visas to 195,000 per year for three years; the current limit is 115,000 per year. The legislation would also exempt from the caps workers who are employed by institutions of higher education, related nonprofit entities, or nonprofit or governmental research organizations.

The bill includes provisions covering the distribution of petitioners' fees to federal education programs, including those of the National Science Foundation. The NSF has received about $30 million from these proceeds in each of the last two years for postsecondary scholarship programs. The bill would expand the NSF's authorized activities to include K-12 educational programs.

The Senate passed the bill 96 to 1 and the House's approval came on voice vote under suspension of the rules, in which a 2/3 majority is needed for passage. Such overwhelming support is a result of the efforts of the high-tech industry to present its case. An Information Technology Association of America workforce study released earlier this year found a 12-month demand for 1.6 million IT workers, and the Computer Technology Industry Association estimates that the shortage of information technology professionals costs the U.S. economy more than $100 billion a year.

MELCO and/or other partners.

Technology Areas

MERL is headquartered in Cambridge, MA, adjacent to the Massachusetts Institute of Technology, and consists of approximately 100 researchers in four laboratories—one outside of Boston, two in Cambridge, and one in New Jersey—founded between 1983 and 1998.

MERL Concord is a hardware- and software-development laboratory. It designed the first ASIC chip capable of real-time volume rendering on a PC plug-in board. The medical and geophysical industries are targeted as early users of volume graphics. A second-generation chip is under development. Since MERL Concord is now engaged in product development and sales, rather than research and advanced development, it is in the process of separating from MERL. It will soon be spun out from MELCO as a separate company.

MERL Cambridge Research is a basic computer science research laboratory, with diverse research specialties ranging from real-time distributed systems through computer graphics, and computer vision to human/computer interaction. Its 'Collagen' system for collaborative interface agents is being used by a number of research institutions and is being evaluated for use in MELCO products. The lab's work on digital audio is being incorporated into the evolving MPEG-7 standard. Graphics research at the lab created and continues to support MERL Concord's product-development activities.

MERL Cambridge Systems is an advanced development laboratory specializing in Internet software and home automation. Its 'Concordia' system supports mobile software agents in Java. Concordia is being used by several groups within MELCO and has been licensed to two companies in North America. A key future direction for MERL as a whole that is being led by Cambridge Systems is work on 'Interactive Surroundings,' which will utilize computer vision and audio processing to provide buildings and outdoor spaces that support their occupants in innovative ways.

MERL Murray Hill is an advanced development laboratory specializing in digital TV, digital communication, and the convergence of television, communications, and computer technologies. In partnership with Lucent Bell Labs and MELCO laboratories in Japan, MERL Murray Hill designed the world's first chip set capable of receiving US HDTV broadcasts. A key future direction for MERL Murray Hill is fourth-generation wireless communications and the delivery of multimedia content.

Within MERL, we emphasize collaboration among the four labs. The integration of the expertise of multiple labs and a partnership between research and advanced development provides a powerful basis for industry-first developments. Our work on volume graphics and our beginning work on Interactive Surroundings are prime examples of how this kind of collaboration can produce successful innovation.

Work Environment

MERL pursues application-motivated research in computer science. We develop new technologies looking three to six years into the future; however, our efforts are directed toward applications of practical significance. By connecting to our sister organizations in MELCO, we forge collaborations that carry our technologies into products.

Good communication is, we believe, the key to successful research. The best ideas are born, and mature most quickly, when critically examined and refined by many minds. To this end, MERL researchers are encouraged to work with each other and with researchers at other institutions. Further, MERL is an active member of the research community, publishing the work we do as quickly as possible.

We are strongly involved in standards activities and the R&D community, maintaining long-standing cooperative relationships with research universities such as Brown, Carnegie Mellon, Georgia Tech, MIT, the University of Michigan, Princeton, SUNY-Stony Brook, and the University of Massachusetts. We encourage our staff to be involved in their professional communities via conferences, papers, reviewing, and continuing professional development.

To allow rapid response to opportunities, MERL is organized as a flexible community of researchers. Our goal is to support a continually changing mix of individual explorations and group projects, where promising individual efforts can easily grow into projects and projects can easily disband at the end of their natural lives.

The expertise of the researchers ranges from mathematics and computer software to chip design and digital hardware. The permanent staff is enriched by an active program of student internships, which hosts approximately 50 students per year for an average of three to four months each.

Successful basic research requires a supportive environment, open communication, access to real-world problems, and a long-term perspective. We are committed to providing all of these elements in full measure at MERL.

We are continually on the lookout for key individuals at all levels, from summer students to senior staff members. Our goal is to hire the best and be the best. Please visit us in person or via our web site at: http://www.merl.com.

Dr. Waters is the President and CEO of MERL. ∎

information infrastructure to accommodate increasing size, capability and complexity; extremely fast computing systems (such as the terascale computing project); and information storage and retrieval. There are significant needs. For example, there is currently insufficient understanding of how to design and test complex software systems with millions of lines of code in the same way that we can verify whether a bridge or an airplane is safe. Yet these software and high-end computing systems lie at the core of worldwide financial systems, air traffic management, defense command and control, virtually all parts of our economy. This research will create the human resources and new understandings to enable growth of the Internet to continue apace."

The race to claim credit for increasing federal support for science and research has been raging for a couple of years now and shows no sign of abating. All in all, the signs point to another good year for NSF support for computing research, but end-game negotiations are always subject to twists and turns. The final details could be available by the time you read this. ∎

Senate Acts on IT Bill

In late September, the Senate passed S 2046, the Federal Research Investment Act, sponsored by Senator Bill Frist. It includes: a) authorizations for all major science agencies leading to a doubling of the aggregate federal research budget over 10 years, and b) authorizations for information technology R&D along the lines of HR 2086, the Networking and Information Technology R&D Act sponsored by House Science Committee Chairman James Sensenbrenner (see May *CRN* for an account of the House's passage of HR 2086).

In its original incarnation, S 2046 was known as the Next Generation Internet Act and would have re-authorized the NGI program. As a result of discussions between Sensenbrenner and Frist, the bill's IT provisions were changed to reflect more closely those of the NITR&D bill before it went to the Senate floor. Frist declined Sensenbrenner's other request to refrain from adding to S 2046 the provisions of the doubling bill, a measure Sensenbrenner adamantly opposes. As such, the bill is unlikely to be completed prior to congressional adjournment and the 2000 elections. ∎

AWARDS PRESENTED

Pictured above at the Hopper Conference presentation of the CRA service awards are (l to r): CRA's vice chair, Mary Lou Soffa; Marjory Blumenthal, winner of the 2001 Distinguished Service Award; Anita Borg, winner of the 2001 Habermann Award; and Jan Cuny, chair of the Habermann Award committee.

implications and applications of computer science, while we are busy trying to teach a standard curriculum? How do we make our courses and programs accessible to a larger population of students, not just to those who are prepared in the "traditional" way?

Throughout the conference, people frequently talked about the benefits, and even the necessity, of "thinking outside of the box." As educators, we must attempt to meet some of these educational needs for our students, perhaps by "teaching outside of the box" a bit more.

Joan Francioni, joanf@wind.winona. msus.edu, is a Professor of Computer Science at Winona State University and a member of the CRA-W committee. Her research is in the area of assistive technology for people with disabilities. (See http://wind.winona.msus.edu/ ~joanf) ∎

industrial data were adjusted to approximate the pay scale for the period September 1999 though August 2000. This was done by assuming that the average company will adjust its scales for CS by 8 percent from 1999 to 2000 (this is not the same as assuming an average salary increase of 8 percent because the actual salary increases people receive also factor in an additional year of experience). The graph shows the *base plus variable salary* for the average minimum, average, and average maximum salaries plotted by years since receiving the Ph.D.

The Taulbee data for the nine-month tenure-track academic salaries are those for the average over all 132 responses from 155 US computer science departments polled (table 24 in the Taulbee Survey, *CRN*, March 2000). Starting salaries are for all US CS and CE departments responding (table 30, row 1). The experience levels assumed for assistant, associate, and full professors are 3, 9, and 18 years, respectively. This is based on the assumption that the typical experience range in CS is 1 to 5 years for assistant professors, 6 to 12 for associate, and 13 and up for full professors, with demographics still favoring younger full professors. Admittedly, these ranges are somewhat arbitrary. Readers can adjust them to draw whatever conclusions they wish! Note that the minimum salaries reported usually correspond to those with less experience in an experience range, while the maximums tend to correspond to those with more experience (although there are many counter examples). However, no adjustment was made for this observation in either the industrial or academic graphs. The industrial experience ranges surveyed were 1 to 5, 6 to 10, 11 to15, and 16 to 20 years. The data are plotted at the midpoints, 3, 8, 13, and 18 years, respectively.

This month CRA will again conduct its survey for 2000-01 industry lab salaries. Companies that complete the survey will receive summary results in December, followed by a detailed analysis in February 2001.

Dr. Gear retired as President of the NEC Research Institute in 1999. He was a CRA board member for many years. As the chair of CRA's Industry Committee, Dr. Gear was instrumental in initiating the industrial labs salary survey in 1997. ∎

CRA Distributed Mentor Project Deadline February 1, 2001

Questions? See:
http://www.cra.org/Activities/craw/dmp/application2001.html

Georgia State University Announces Ph.D. Program in Computer Science

Beginning in fall 2000, the Computer Science Department at Georgia State University offers a Ph.D. program in Computer Science. Applications are sought for the spring, summer, and fall 2001 semesters. Financial aid is available for full-time Ph.D. students. The department encourages applications from high-tech and teaching professionals and those with non-computer science, but closely related, degrees.

Fields of Study

The Department of Computer Science currently has 14 faculty members with research interests in Artificial Intelligence, Bio-informatics, Combinatorial Optimization, Computer Architecture, Computer Networks, Databases, Digital Libraries, Embedded Software Systems, Graphics and Visualization, Parallel and Distributed Computing, Programming Languages, Simulation, and Software Engineering.

Research Infrastructure

Departmental computing facilities for research include more than 130 networked computers, a 24-processor Origin-2000 high-performance computer, and six laboratories, including one with ATM switches for network and distributed computing research and another for hypermedia and visualization research.

Location

The university is located in the heart of Atlanta's central business district. Atlanta is a major center for research and education with more than 13 universities and colleges and four major research libraries.

Contact

Director of Graduate Studies, Department of Computer Science, Georgia State University, Atlanta, GA 30303-3083. http://www.cs.gsu.edu/cscindex.html ∎

CRA Profiles from Page 4

Table 5. External Sources of Support, Percent of Total Expenditure

	US	Private	Public	Ranked 1-12	Ranked 13-24	Ranked 25-36	Other
NSF	37%	35%	38%	42%	31%	38%	37.4%
DARPA	13%	21%	11%	31%	24%	20%	8.3%
NIH	2%	2%	2%	0%	3%	3%	2.1%
DOE	3%	1%	3%	3%	0%	7%	2.3%
State Agencies	11%	3%	13%	4%	2%	3%	14.2%
Industrial Sources	12%	16%	11%	9%	7%	15%	12.9%
Other Defense Research Agencies	4%	4%	4%	1%	8%	1%	4.3%
Other Mission-Oriented Federal Agencies	13%	17%	12%	10%	20%	11%	12.1%
Other	5%	1%	6%	0%	5%	2%	6.5%

multi-year support was reported by 51 percent of programs; 20 percent of these programs offered support for 2 years, 14 percent offered support for 3 years, and 59 percent offered support for more than 3 years. Paid visits to campus were reported as an incentive by 51 percent of programs, with a median amount per visit of $500 and a maximum of $1,500. Finally, guaranteed summer support was reported by 30 percent of the programs; the mean and median amounts reported were approximately $4,000.

Conclusions

We have not attempted to provide any comparison of the results of this survey with those of the 1998 survey, since we are still working to develop a body of questions that can consistently generate useful and reliable results. For example, we have had difficulty in phrasing questions that deal effectively and reliably with faculty teaching loads. We have asked for data on "official" and "actual" teaching loads. The ways in which departments treat graduate seminars and advising are extremely variable, and it is hard to find words that can pin this down in a uniform manner. Department budgets and operating expenditures raise similarly complex issues that are difficult to resolve in the brief text of a question.

The results of the survey were presented at a workshop at the CRA Conference at Snowbird in July. The initial feedback from the workshop suggests that the survey data are of great interest to computer science and computer engineering departments.

The CRA Board is considering the future of the Profiles Survey. One possibility would be to incorporate some of the Profiles questions into the annual Taulbee Survey.

Acknowledgments

We would like to thank Stu Zweben and Jeff Ullman for their assistance in developing the survey. We would also like to acknowledge the support of the CRA staff, and particularly the help of Bill Aspray and Jay Vegso. Finally, we would like to thank Lena Truszczynski for her help in analyzing the results of the survey.

Stephen Seidman and Mirek Truszczynski, who also oversaw the 1998 Profiles Survey, chair the computer science departments at Colorado State University and the University of Kentucky, respectively. ■

Table 6. Departmental Space (in sq. ft.)

	Total Space		Space per Faculty	
	mean	median	mean	median
Private	23,359	20,561	1,506	1,250
Public	23,580	17,600	1,118	1,045
US CS Ranked 1-12	47,371	46,148	1,439	1,381
US CS Ranked 13-24	32,170	31,760	1,318	1,310
US CS Ranked 25-36	31,171	24,532	1,217	1,279
US CS Other	18,620	16,118	1,199	1,035
US	23,516	19,253	1,230	1,103

Table 7. Space Allocation, Percent of Total

	Offices	Research	Instructional	Conference
Current space	54.0%	21.0%	18.0%	7.0%
Planned Space	46.5%	30.0%	16.0%	7.5%

Table 8. Source of Funding for Construction/Renovation Project

Institutional	58%
Federal	2%
State	51%
Industrial	20%
Private	42%

Table 9. Faculty Teaching Load (Semester Courses)

	Official		Actual	
	mean	median	mean	median
Private	3.07	3.00	2.75	2.26
Public	3.63	3.17	2.93	3.00
US CS Ranked 1-12	2.58	2.75	2.41	2.40
US CS Ranked 13-24	2.74	3.00	2.08	2.00
US CS Ranked 25-36	2.54	2.58	2.17	2.00
US CS Other	3.85	4.00	3.15	3.00
US	3.49	3.00	2.88	2.87

Table 10. Number of FTE Students Per Faculty

	Teaching Asst.		Research Asst.		Fellowship	
	mean	median	mean	median	mean	median
Private	1.26	1.06	2.26	1.71	0.79	0.38
Public	1.46	1.17	1.32	1.15	0.30	0.24
US CS Ranked 1-12	1.81	1.74	1.76	1.51	0.61	0.55
US CS Ranked 13-24	0.87	0.85	2.55	1.99	0.37	0.13
US CS Ranked 25-36	1.38	1.17	1.78	1.60	0.25	0.17
US CS Other	1.44	1.08	1.38	1.12	0.49	0.25
US	1.41	1.09	1.56	1.31	0.45	0.27

Table 11. Graduate Student Stipends

	Teaching Asst.		Research Asst.		Fellowship	
	mean	median	mean	median	mean	median
Private	$10,568	$12,000	$12,134	$13,185	$14,273	$14,175
Public	9,925	11,064	10,268	11,074	12,561	13,500
US CS Ranked 1-12	14,459	14,500	14,239	14,500	16,012	16,800
US CS Ranked 13-24	12,369	12,857	13,679	13,806	14,871	14,588
US CS Ranked 25-36	10,503	12,805	10,489	12,497	14,955	13,870
US CS Other	9,350	10,165	10,065	10,620	11,394	12,625
US	10,088	11,250	10,723	11,950	12,989	13,884

White House Names New Director of National Coordination Office for Computing, Information, and Communications

Neal Lane, the President's Science Advisor, has named Cita Furlani as Director of the National Coordination Office for Computing, Information, and Communications, effective October 1, 2000.

Ms. Furlani has been the Acting Deputy Director of the Advanced Technology Program at the National Institute of Standards and Technology. Previously she directed the interagency Committee on Applications and Technology of the former Information Infrastructure Task Force on behalf of the NIST Director, helping to create the Administration's National Information Infrastructure Agenda for Action and supporting the work of the NII Advisory Council.

The National Coordination Office, established under the White House Office of Science and Technology Policy's National Science and Technology Council, is responsi-

ble for coordinating the federal inter-agency IT R&D programs. As part of this effort, the National Coordination Office works closely with the Interagency Working Group (IWG) for IT R&D to formulate implementation plans and a unique crosscutting budget to assure that the overall federal information technology research is properly focused on the research priorities established by the IWG. The National Coordination Office also supports the influential President's Information Technology Advisory Committee, which provides guidance to the President on key issues related to IT research.

Ms. Furlani has been a NIST employee since 1981. She holds a Master of Science degree in Electronics and Computer Engineering from George Mason University and a Bachelor of Arts degree in Physics and Mathematics from Texas Christian University. ■