Computing Researchers See Increase in Completed Defense Bill

By Peter Harsha

By the start of the 2005 fiscal year (on October 1, 2004) Congress had completed work on just one of thirteen annual appropriations bills necessary to fund the operations of the federal government. It appeared increasingly likely that work on the remaining bills would not be completed until after the November 2nd federal election—and possibly not until the new Congress is seated in January 2005.

As this issue goes to press in early October, Congress has passed a “continuing resolution” providing stopgap funding for federal agencies left without a FY 2005 appropriation through November 20, 2004—an indication that the Congressional leadership does not believe it is likely that agreements can be reached on the remaining bills until Congress returns to Washington in a “lame duck” session after the election.

As a result, agencies like the National Science Foundation, Department of Energy, and NASA, whose appropriations bills have not yet passed, will operate at FY 2004 spending levels, with no new program starts or new spending until an agreement is reached.

This result was foreshadowed back in April and May of this year when the House and Senate were unable to agree on a joint budget resolution that would have set caps on FY 2005 appropriations. Without the caps in place, appropriations bills that come to the floors of the respective chambers are open to amendments that could significantly increase funding levels (or cut others) for programs within the bills. This, in turn, would put Members of Congress in the politically awkward position of having to vote up or down on spending increases on any number of individual programs—a prospect neither the Republican nor Democratic leadership relished during an election year.

It is likely that the unfinished appropriations bills will be bundled into a single “ombibus” appropriations bill and passed en masse, either during the lame duck session or perhaps as late as January when the new Congress convenes. Despite the delay, some progress has occurred on a number of appropriations bills, including a few of particular relevance to computing researchers.

Defense (PL 108-287)

The FY 2005 Defense Appropriation has the distinction of being the only appropriations bill that has been signed into law (PL 108-287). Researchers fared reasonably well under the bill, with overall research and development at the Department of Defense slated to increase 10.3 percent or $1.2 billion, to $13.3 billion overall in FY 2005. Aggregate basic research funding at the Department of Defense (DOD), so-called “6.1” research in DOD parlance, will rise to $1.5 billion in FY 2005, an increase of 7.8 percent or $110 million over the FY 2004 appropriated level. DOD applied research (“6.2”) will increase 11.9 percent to $4.9 billion, and advanced technology development (“6.3”) will rise 9.8 percent to $6.2 billion in FY 2005.

Of particular importance to computing researchers, the Defense-wide “Computing Systems and Communications Technology” program line, which includes much of the funding for IT R&D at DOD and DARPA, has been split into two program lines. The new “Information and Communications Technology” line will receive $592.7 million in funding in FY 2005, and the new “Cognitive Computing Systems” account will receive $351.2 million in FY 2005. Their combined $944 million represents about $1.2 million more than the President requested for FY 2005 and $5.5 million more than FY 2004.

The “High Performance Computing Modernization Program” also received an increase of $32.7 million.
Expanding the Pipeline

Coalition to Diversity Computing (CDC)

By Patricia J. Teller

The Coalition to Diversity Computing (CDC), founded in 1996, is an organization whose primary goal is the enhancement and diversification of the available pool of highly trained scientists and engineers in computer-related fields. It is a joint organization of the Association of Computing Machinery (ACM), Computing Research Association (CRA), and IEEE Computer Society (IEEE-CS). The CDC membership includes representatives from academia, industry, and federal labs that are involved in a variety of computer-related disciplines. Each member is engaged in a project aimed at realizing CDC's goal.

Given the importance of diversity in the workplace, the need for growth of the technical workforce, and national demographic trends, CDC partnerships and projects target an increase in the number of students from underrepresented ethnic groups transitioning into computing-related careers. To reach this objective, it is imperative that students perform well in their undergraduate studies and are strongly encouraged to continue their education into graduate school. Similarly, it is essential that graduate students successfully attain M.S. and Ph.D. degrees and take on leadership positions within both societal and technical communities.

Some strategies employed by CDC projects that have been effective in achieving these objectives are: 1) accessibility to role models, 2) enhancement of student confidence, 3) availability of financial and emotional support, and 4) awareness of education and career possibilities. For example, with respect to role models, according to CRA's Taubman Survey 2002-03, only two percent of the doctorsates in computer science and computer engineering went to Hispanics and only one percent went to African-Americans; none were awarded to Native Americans. These statistics translate to very few faculty members from underrepresented ethnic groups being visible to students.

Two CDC projects that specifically address the accessibility of role models from underrepresented ethnic groups are the Distinguished Lecturer Series and the Traveling Academic Forum. The former organizes and supports visits of minority researchers from academia and industry to majority- and minority-serving institutions to give lectures on the opportunities, technologies, and relationships needed to be successful in computer-related disciplines. The latter provides workshops that provide information (e.g., hiring, promotion, and tenure processes) that permits better understanding and navigation of the academic ladder. The workshops offer encouragement to under- graduate students to pursue graduate studies and early exposure to academic careers. The long-term goal of the Traveling Academic Forum is to create a community of faculty to provide support and guidance for each other. Creating community, whether among undergraduate students, graduate students, or faculty, provides a great impetus for success. For example, consider the fact that many faculty members who have succeeded in their pursuit of tenure and senior faculty status have done so only through information exchanges that led to greater awareness, communication, and interactions. Similarly, many successful graduate students have achieved their goals through directed interactions with faculty mentors. Another CDC project, sending Students/Mentors to Technical Conferences, encourages undergraduate and graduate students to gain expertise in areas of computing, while providing them with opportunities to network with researchers in these fields. To this end, it provides financial support to students from underrepresented ethnic groups in science, technology, engineering, and mathematics, with a particular focus on the area of computing, to attend and participate in leading technical conferences. It is always easier to attend a conference with someone else; thus, a student is not eligible for support unless a faculty member commits to serving as the student’s mentor at the conference. Additionally, students are encouraged to apply in pairs or triplets. Student and faculty mentor pairs who otherwise would be unable to attend such conferences (i.e., who lack individual and institutional means for attending the conferences) are the primary targets of this project.

In supporting the students, the project endeavors to provide access to role models, enhance their confidence, and increase their awareness of educational and career possibilities. Through the faculty mentors, whether supported directly or indirectly (through support of their students), the project seeks to increase the number of faculty who work towards CDC’s goals. The project has had some notable successes. For example, after attending the 2001 SIAM Conference on Computational Science and Engineering with his student Omar Santiago, Dominus Rosanos, Assistant Professor at the City University of New York, let us know that “... Omar decided to join the [CDC] research group and pursue his Ph.D. He applied, was accepted, and is now a Ph.D. student.” Heather Ann Wake, University of South Carolina, supported by the project to present a paper at FCMC ’03, said of her experience “... I must have done fine because people came up to me afterward to talk about my project and ask for my personal opinions. Overall, this conference was an irreplaceable experience that will help me in the future.” Heather received an NSF graduate fellowship, and was the female runner-up in CRA’s 2004 Outstanding Undergraduate Award competition.

Other current CDC projects include:

- CRAU (Collaborative Research Experiences for Undergraduates)—a joint program between CDC and CRA-W that makes research experiences available to teams of undergraduates during the academic year at their home institutions.
- CDC Database of minority researchers and graduate students.
- Distributed Rap Sessions, which provide support for minority undergraduate and graduate students by creating a virtual community of peers with common backgrounds, both ethnically and intellectually.
- Traveling Graduate School Forum.

Bringing together the objectives of all of CDC’s projects is the biennial Richard Tapia Celebration of Diversity in Computing Conference, which is organized by CDC. This conference, which began in 2001, celebrates the technical contributions and career interests of diverse people in computing fields. The next conference is scheduled for October 19-22, 2005 at the Hyatt Regency in Albuquerque, NM. If you would like to help CDC attain its goals, 1) be a mentor—you don’t need to be a member of an underrepresented ethnic group or an academian to do this, 2) build community among undergraduate and graduate students of under-represented ethnic groups, 3) provide these students access to role models, even on a limited basis, or 4) submit a CDC project for consideration. Get involved! For more information about CDC, its projects, and the Richard Tapia Celebration of Diversity in Computing Conference, go to http://www.cdc-computing.org.

Patricia J. Teller, Chair of the Coalition to Diversity Computing, is an Associate Professor in the Department of Computer Science at The University of Texas at El Paso.
ECEDHA News and Activities

By Kenneth Jenkins, Stephen Goodnick, and Kenneth Connor

We would like to begin this article by providing some history of the organization currently known as ECEDHA.

In 1963, at the ASEE Annual meeting, the department heads of Electrical Engineering Departments in the United States began to organize, and the organization that grew out of these efforts soon became known as the Electrical Engineering Department Heads Association (EEDHA). EEDHA’s purpose was to serve as an advisory group on accreditation to and the IEEE Professional Group on Education. It also provided an independent forum for members to discuss mutual problems, and facilitated the dissemination of educational methods and materials. EEDHA’s early meetings were held at the annual ASEE and IEEE meetings.

In 1981, EEDHA became an independent of ASEE and IEEE. Aligned by a grant from NSF, EEDHA reorganized on a national level in 1984 and held its first National EEDHA (NEEDHA) meeting in Hilton Head, SC. In 1986, the International Engineering Education Consortium (IEC) took over the “management” of NEEDHA.

In 2001, NEEDHA changed its name to recognize the emergence of computer engineering curricula among its membership, becoming the Electrical and Computer Engineering Department Heads Association (ECEDHA). Its mission is formally stated in the organization’s constitution (see Box 1). ECEDHA expanded further in 2003 when the Canadian Heads of Electrical and Computer Engineering (CHECE) were invited as full members of ECEDHA after passage of a constitutional amendment. In December 2003, the ECEDHA membership totaled 286, with members from the United States, Canada, Puerto Rico, Mexico, and South America. The member institutions total 1399 total accredited programs, representing 85 percent of the total ECE programs in these countries.

ECEDHA maintains a Web site (www.ecedha.org), supports a job posting list server (ecedha-jobs@ecnz.org), and publishes an Annual Departmental Survey and an Annual ECEDHA Newsletter. At its annual national meetings, ECEDHA sponsors an ABET Workshop and a New Chairs Workshop. ECEDHA also sponsors annual awards program, with awards presented in the categories of Service, Innovative Programs, and Accreditation Advocacy.

ECEDHA’s key activities for 2003 included organizing a Special Issue of the IEEE Transactions on Education: Vision for ECE Education in 2013 and Beyond (Vol. 45, No. 4, Nov. 2003); organizing an NSF/ECEDHA/IEC Nano-Engineering Education Workshop in January, 2003; and co-organizing with NSF an NSF/ECEDHA Agents of Change Workshop: Achieving Diversity in Electrical and Computer Engineering Research and Education in June, 2003. Reports from these workshops are available on the ECEDHA Web site.

2004 Annual Meeting

The 2004 ECEDHA Annual Meeting was held in Orlando, Florida, March 16-22, 2004. The meeting was well attended with more than 180 chairs and heads present. Sessions were devoted to varied topics of interest to heads of ECE departments, including future research directions, diversity in ECE programs, ABET and undergraduate education issues, public policy, and engineering education research. Dr. William Wolf, President of the National Academy of Engineering, presented the keynote talk entitled “Thoughts on the Globalization of Engineering and Its Implications for Engineering Education.” This issue is currently at the forefront of public discussion (particularly during this election year), and Dr. Wolf’s insights on these issues stimulated a great deal of discussion throughout the 2004 annual meeting. Electrical and Computer Engineering are fields that are heavily impacted by the global economy in areas such as software, electronics manufacturing, and electronic design.

Globalization and the Engineering Workforce

As a result of the intense interest in public policy and engineering outsourcing abroad that was stimulated during the 2004 annual meeting, the ECEDHA Board of Directors has initiated an effort to organize a workshop on this topic. Plans are currently being developed to hold the workshop in Washington, D.C. area in spring 2005. It is hoped that this workshop will stimulate further debate on outsourcing and globalization, in light of the lack of hard data concerning the impact of this evolution on engineering jobs in the United States. It seems that much recent discussion has been shaped by anecdotal evidence as opposed to aggregate-statistics. It was somewhat surprising to learn of May 2004 labor statistics that claimed to show only a minor portion (less than 5%) of job losses in the workforce as being identifiable with outsourcing. Our wonders on such statistics truly account for the large growth of offshore facilities, and associated obsolescence of older US-based facilities, as opposed to simply measuring direct loss of individual jobs due to outsourcing.

It is becoming increasingly apparent that there is a growing need to educate engineering students for competitive careers in a global economy. Educators will face the challenge of recruiting students into ECE programs in the face of the negative publicity of outsourcing.

Box 1. ECEDHA Mission Statement

The purposes of ECEDHA are:

• To advance the fields of electrical and computer engineering and contribute to the development and dissemination of effective communication in the public interest and for the public good;

• To provide a forum for electrical and computer engineering department heads (hereinafter referred to as heads of departments) in the United States to exchange information and ideas for improving the quality and effectiveness of electrical and computer engineering education;

• To allow the heads of departments to improve electrical and computer engineering education through effective communication with:
  i. the electrical and computer engineering profession,
  ii. the electrical and computer engineering industry,
  iii. other electrical and computer engineering professional organizations,
  iv. the institutions with accredited electrical and computer engineering programs,
  v. appropriate government agencies.

Nominees Sought for CRA Board

The Computing Research Association seeks your help in suggesting nominations for its Board of Directors. The deadline for receipt of nominations is January 14, 2005.

Each spring CRA member organizations elect about one-third of the association’s board members to three-year terms. Candidates are not required to be affiliated with CRA member organizations. It is important that the CRA Board represents the interests of the computing research community, and it is CRA’s policy to solicit a broad range of candidates. From the nominations received, the elections committee selects the candidates whose names will appear on the ballot.

In past elections there has often been a shortage of industry nominations. For that reason, the committee particularly encourages the nomination of candidates from the industrial sector.

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

• Planning the biennial CRA Conference at Snowbird.

• Conducting other surveys (e.g., industrial lab salaries; departmental budgets, space, personnel).

• Developing workshops on critical policy issues for computing research.

• Planning academic and industrial careers and effective teaching workshops.

• Increasing the participation of women and minorities in computing research, with the help of National Science Foundation grants.

• Improving public and policymaker understanding of the importance of computing and computer science in society.

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

Further information on CRA, and its activities is available on the Web at http://www.cra.org or by e-mailing elections@cra.org. Please contact the person you are nominating before submitting his or her name to ensure that the nominee is willing to stand for election to the board. Those who are nominated are required to write a brief statement (not to exceed 100 words) supporting their nominations. To receive a nomination form, send an e-mail request to elections@cra.org. Nominations must reach CRA by January 14, 2005.
CISE Update: Adjusting to the Increase in Proposals

By Michael Pazzani, Kamal Abdali, Greg Andrews, and Sangtae Kim

The number of proposals submitted to the CISE directorate at NSF has increased substantially over the past five years. A companion article, “CISE 1994-2004: A Decade in Review,” discusses the statistics in more detail. Here we discuss how CISE is adapting to the increase in proposals while pursuing its mission.

The Directorate for Computer and Information Science and Engineering has three goals:

1. To enable the United States to uphold a position of world leadership in computing, communications, and information science and engineering.
2. To promote understanding of the principles and uses of advanced computing, communications, and information systems in service to society.
3. To contribute to universal, transportable, and affordable participation in an information-based society.

To achieve its goals, CISE supports research in all areas of computer and information science and engineering, helps to develop and maintain cutting-edge national computing and information infrastructure for research and education, and contributes to the education and training of the next generation of computer scientists.

A few general principles guide our policy decisions:

• Very low proposal acceptance rates are harmful to the computing research and education community and should be avoided. We realize that the community as a whole puts a great deal of effort into writing proposals, and we are grateful to those who volunteer to serve on review panels.
• CISE will continue to fund a broad and diverse group of principal investigators to fulfill its research and educational mission.
• CISE strives to fund the most innovative projects with the potential for the greatest impact, and to seek peer input on both the intellectual merit and broader impacts of projects proposed.
• Collaborative, multidisciplinary research is encouraged. However, CISE-funded research should lead to advances in computer and information science and engineering.
• CISE will continue to emphasize certain areas of critical importance, such as computer and network security, but will also continue to ensure that funding is available for a broad range of core computer science research. This will ensure that we avoid creating funding gaps that are harmful to the long-term success of computer science.

There are several reasons for the increase in the number of proposals submitted to CISE. First, there has been an increase in computer science faculty nationally. Second, some other funding agencies and some private companies have reduced support for computer science research at universities. Third, the field of computer science has expanded to take on a broader mission (e.g., by including new areas such as bioinformatics).

We illustrate how CISE is adjusting to the increase in proposals in the Information and Intelligent Systems (IIS) division. IIS received 1,220 proposals in FY2002, 2,029 in FY2001, and 2,366 in FY2004. In FY2003, NSF received a substantial budget increase and IIS funded more awards than in any prior year. However, the budget increase did not keep up with the number of proposals. As a consequence, IIS declined more proposals and a higher percentage of proposals in FY2003 than in prior years.

The growth in proposals in 2004 was not accompanied by a substantial budget increase. Without some adjustments to our plans, acceptance rates in 2004 would be below 10 percent in many competitions. Consequently, only a few IIS solicitations will have their usual winter deadlines; the deadlines for the other solicitations will be delayed from the winter to the spring of 2005.

Specifically, Collaborative Research in Computational Neuroscience, Science, Universal Access, and Science and Engineering Information Integration and Informatics (SEII) will continue with their December 2004 deadlines as planned. All other IIS solicitations will have their deadlines delayed until mid-April 2005. FY2005 funds will be used to fund some additional proposals that were submitted in FY2004 to the competitions with unacceptably low acceptance rates, as well as 2005 CAREER awards and awards in the solicitations with December deadlines. Proposals submitted in April 2005 will be funded with FY2006 funds. We anticipate that the deadlines for all IIS programs will be the same in 2006 as in 2005 (e.g., proposals submitted in April 2006 will be funded in October 2006 with FY2007 funds).

One advantage of this adaptation is that some high-quality proposals submitted to IIS in FY2004 that would not otherwise have been funded will indeed be funded. If these proposals were not funded, it is likely that updated versions of them would be submitted again, and we would place an additional burden on the CISE community by asking them to review them again.

Another advantage of this adaptation is that funds provided to NSF will be available to the IIS research community earlier in the fiscal year. While in most years the community receives the majority of NSF funding in the last quarter of the fiscal year, in 2005 most funds will be distributed in the first quarter of the fiscal year (allowing students to be hired earlier, for example).

Of course, the disadvantage of this adaptation is that PIs who were intending to write proposals for the winter deadline in hopes of receiving funding in the late summer will not be able to receive funding until the early fall. The effects of this delay can be mitigated by requesting no-cost extensions or supplements to existing grants, by applying to grant solicitations with winter deadlines (such as SEII), and by NSF notifying PIs of award decisions as early as possible so PIs may elect to charge some costs to grants up to 90 days before the grant is received.

CISE is exploring similar strategies in the Computing and Communication Foundations Division. The Theoretical Foundations cluster and the Emerging Models and Technologies for Computing cluster will have their usual proposal deadlines in January and February 2005, respectively, and awards will be made by the summer of 2005. The deadline for the Computing Processes and Architectures cluster will be delayed until May 2005, with awards made in the late fall of that year. The other CISE divisions, CNS and SCI, will have the same or earlier deadlines for their programs in 2005.

Two other adaptations are also worth noting. First, CISE will limit the number of proposals that one may submit to some competitions, and will enforce regulations that prohibit sending virtually identical proposals simultaneously to more than one competition. The goal here is to reduce the number of proposals, while sending the message that it is better to invest one’s time in one high-quality, innovative proposal than to spread one’s efforts over many proposals of perhaps lesser quality.

Second, CISE is coordinating with a variety of agencies, including the Department of Homeland Security, Defense Advanced Research Projects Agency, Central Intelligence Agency, Library of Congress, and National Institutes of Health, to fund proposals of mutual interest. Additional funds provided by these agencies help NSF and these agencies achieve the common goal of supporting innovative research.

Lastly, computing faculty are encouraged to consider funding opportunities not only in CISE, but also in NSF’s priority areas (i.e., Nanoscale Science and Engineering, Biodiversity in the Environment, Mathematical Sciences, and Human and Social Dynamics), centers (e.g., Science and Technology Centers, Science of Learning Centers, and Engineering Research Centers), cross-directorate programs (e.g., Major Research Instrumentation and Integrative Graduate Education and Research Traineeship), and other NSF programs where information technology advances might play an enabling role.

While CISE wishes that it could return to the days of 15 percent acceptance rates, by creatively adapting to the changing environment according to the principles enumerated in this article, we believe that CISE can fulfill its mission by investing in the people, tools, and ideas that enable the United States to uphold a position of world leadership in computing, communications, and information science and engineering.

The authors are Division Directors at NSF in the Directorate for Computer and Information Science and Engineering (CISE). Michael Pazzani, Information & Intelligent Systems (IIS); Kamal Abdali, Computing & Communication Foundations (CCF); Greg Andrews, Computer & Network Services (CNS); and Sangtae Kim, Software and Tools (or High-End Computing (SC)).

CRA Welcomes New Members

Academic Departments

Toyota Technological Institute at Chicago
University of Arkansas (CS)
University of Massachusetts, Boston (CS)
University of Southern California (EES)

Industry Labs

NTT DoCoMo USA Labs
Students Receive CRA Awards at Hopper Conference

Eight students were in attendance at the Grace Hopper Celebration of Women in Computing banquet in Chicago on October 7 to receive their 2004 CRA Outstanding Undergraduate Awards.

The female winner award was presented to Anna Cavender (University of Oregon); Heather Wake (University of South Carolina) received the female Runner-Up award; and Honorable Mentions went to Erika Sheehan (Purdue); Arati Kurani and Dong-Hui Xu (both from DePaul); Katrina Ligett (Brown); Jane Tougas (Dallhauser); and Kristin Vadas (Georgia Tech).

Jan Curry, CRA's Vice Chair, and Andy Bernat, CRA's Executive Director presented the awards.

Other winners were presented with their awards in July at the AAAI annual meeting in San Jose (see CRN September 2004).

February 11 Deadline for CRA Service Award Nominations

The Computing Research Association invites nominations for the CRA Distinguished Service Award and the A. Nico Habermann Award for 2005.

Distinguished Service Award

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

A. Nico Habermann Award

CRA makes an award, usually annually, to a person who has made outstanding contributions aimed at increasing the numbers and/or successes of underrepresented groups in the computing research community. This award recognizes work in areas of government affairs, educational programs, professional societies, public awareness, and leadership that has a major impact on advancing these groups in the computing research community. Recognized contributions can be focused directly at the research level or at its immediate practices in the recruitment and retention of minorities and women in the Electrical and Computer Engineering profession.

Recent Interactions between ECEDHA and CRA on Public Policy Matters

At the recent CRA meeting at Snowbird, ECEDHA attendees (including two ECEDHA board members, Bob Janowiak and Ken Connor) took the opportunity to explore how ECEDHA and CRA can work together more closely in the area of public policy. As a result, CRA has invited Dr. Wayne Bennett, who currently serves on the ECEDHA Board of Directors, to become a member of the CRA Government Affairs Committee as an ECEDHA representative. CRA has also expressed interest in developing a stronger relationship with IEEE in the interest of strengthening their relationships with the computer/IT industry.

Kenneth Jenkins (justin@rpi.edu) is ECEDHA’s President; Stephen Goodnick (stephen.goodnick@asu.edu), ECEDHA’s Past-President; and Kenneth Connor (kconnor@rpi.edu), ECEDHA’s Vice President.
or 15.9 percent over FY 2004, increasing to $238 million for FY 2005. Full details of the branch-by-
branch breakdowns are included in table 1.

VA-HUD-Independent

Institutions

Agencies (HR 5041, S 2825)

Both the House and Senate Appropriations Committees have approved their respective versions of the VA-HUD-Independent Agencies appropriations bill, which includes funding for the National Science Foundation and NASA; however, as this issue goes to press in early October, neither bill has been considered by the full House or Senate.

The House Appropriations Committee acted first (as we reported in CRN, September 2004, Vol. 16, No. 4), approving a bill that would cut NSF’s overall budget by $110 million over the FY 2004 level to $5.47 billion in FY 2005, a cut of 2.0 percent. In addition to cuts at NSF, the House committee also approved a $1.1 billion cut to NASA’s FY 2005 budget, earning a veto threat from the Administration.

However, NSF faced much better in the Senate version of the bill, which included an increase of 3.0 percent overall for the agency in FY 2005. Under the Senate bill, NSF funding would rise to $5.75 billion in FY 2005, an increase of $167 million over FY 2004. This matched the President’s requested level, but is still well beneath the 15 percent per year increases authorized by Congress and approved by the President in the NSF Authorization Act of 2002.

Computing research fared better than most other areas in the Senate version. Under the plan, the Computing, Communication and Engineering Directorate (CISE) would increase 4.1 percent over FY 2004, rising to $653 million to $670 million ($12 million more than the President’s request). Only Social, Behavioral, and Economic Sciences (SBE) and “Integrative Activities” had a higher percentage increase, and those are directorates with considerably smaller baseline budgets. In addition, the Senate committee, noting the success of the agency’s Information Technology Research program at “increasing our understanding of computing, communications, and information systems as well as the areas of large-scale networking, new high-end architectures, high-data-volume instruments, and information management,” increased funding for the activity to $190 million for FY 2005. Having completed the five years it was originally slated to run, the IT program was due to drop in funding to $178 million for FY 2005. It is not yet clear how work on the respective VA-HUD-Independent Agencies will proceed. They could move as individual bills for consideration by their respective committees or get bundled up with all of the other unbalanced appropriations bills as part of an omnibus bill and never see individual consideration. However, at

some point, House and Senate negotiators will have to work out the discrepancies between the House and Senate funding levels. As in the past, CRA will work to see the highest possible funding level approved. For the latest updates on that effort, check CRA’s Computing Research Policy Blog at http://www.cra.org/ 
govaffairs/blog/index.php.

Commercial, State, Justice,

and Judiciary (HR 4754, S 2809)

This bill includes funding for the National Institute of Standards and Technology (NIST) and the National Oceanic and Atmospheric Administration (NOAA). As a result of a very poor FY 2004 appropriation, NIST has found itself in a very dire financial situation. A $12 million cut in the agency’s budget in the appropriation left it unable to move forward on much of its cybersecurity work and led to layoffs for some lab personnel.

Both the House and Senate Appropriations Committees have approved similar versions of the Senate bill; the House version would provide $375 million for FY 2005. In contrast, the House version would provide $343 million for FY 2005. Both versions are still well short of the Administration’s request of $423 million. However, the Senate took a completely different path than the House regarding the controversial Advanced Technology Program. The House bill and the President’s budget request both zeroed out the $172 million ATP program, but the Senate version would actually increase the program by 14.5 percent to $235 million. It is not clear how this significant divergence of opinion will get resolved.

Of note to computing researchers, the Senate bill would set aside $3 million for quantum computing research, with the committee noting that a breakthrough in quantum computing technology “would rival that of the transistor 50 years ago.”

Homeland Security

(HR 4567, S 2537)

Both the House and Senate Appropriations Committees have marked up their respective versions of the Homeland Security bill; both have the same relatively small increase of $18 million in cyber security research and development for FY 2005 out of a total Homeland Security S&T budget of more than $1.0 billion. For the latest updates on the appropriations process, check the CRA Government Affairs website at http://www.cra.org/govaffairs . For commentary and analysis on the latest developments, be sure to check CRA’s Computing Research Policy Blog at blog.cra.org/govaffair/.
a government-wide priority. And more dramatic increases in the CISE budget ensued. Figure 1 describes CISE budget growth over the 1994-2004 period and demonstrates that growth in CISE funding exceeded growth in NSF overall.

Over this same time period, the number of CS and CE faculty nationally has also been rising, with CRA’s Taulbee Survey indicating a greater than 35 percent increase from 1998 to 2003 in tenure-track faculty in Ph.D.-granting CS and CE departments. This increase in the number of computing faculty can be attributed to the movement of researchers to academia following the closing or downsizing of industrial labs, and to the growing number of new Ph.D.s accepting tenure-track positions in Ph.D.-granting departments in recent years.

The growing number of CS and CE faculty, coupled with NSF’s annual solicitations for ITR proposals (2000-04), resulted in an annual solicitation rate that has doubled between 1994 and 2004, the number of proposals received on an annual basis has more than tripled during this ten-year time period. Over the same period, the funding rate for proposals submitted to CISE has dropped considerably, from approximately 36 percent in 1994 to a decade low of 16 percent in 2004.

While in the early part of the last decade CISE funding rates were higher than NSF’s overall funding rate, more recently CISE funding rates have dropped below the overall rate by quite a significant margin, even while the CISE budget was growing at a faster rate, as demonstrated in Figure 3.

Funding rates within CISE programs vary. However, direct award amounts and budget growth have not kept pace with demand—has resulted in significantly reduced proposal funding rates.

The companion article, “CISE Update: Adjusting to the Increase in Proposals,” describes CISE’s current plan to adapt to this changing environment. However, as we make and implement these plans, the community must also think about its funding needs, priorities, and strategies. With computing advances increasingly important to advances in other science and engineering fields, computing faculty must continue to explore funding opportunities from all sources, including CISE and other organizations within NSF. Moreover, the computing research and education community needs to speak with one voice about the critical contributions that they can, and indeed must, be empowered to make towards creating a safe, healthy and vibrant civil society, both in the United States and around the world.

Peter Freeman (pfreeman@nsf.gov) is the Assistant Director of Computer and Information Science and Engineering at the National Science Foundation. Lee Harle is an NSF AAAS Fellow.

Transitions

The NSF Directorate for Computer and Information Science and Engineering has announced the selection of two new CISE Division Directors. Dr. Michael Foster has been selected Director, CISE Division of Computing and Communication Foundations, effective October 31, 2004.

Dr. Wei Zhao has been selected Director, CISE Division of Cyberinfrastructure (SCI), effective January 3, 2005. Dr. Wei will join NSF from Texas A&M University, where he is Associate Vice President for Research and a Professor of Computer Science.

Dr. Foster has served as a program director at NSF since 1992, and most recently was a program director in the CISE Division of Shared Cyberinfrastructure (SCI).
Applicants should also request three letters of \textit{vitae}, a statement of present and future research is planned. This year, a new bioinformatics faculty with postdoctoral training and extensive experience is planned to move into a new facility in 2006 and to establish a doctoral program starting in 2007. The Computer Science Department expects to train graduate students and to establish a vigorous computational biology and bioinformatics minor. Women applicants at the assistant professor level are especially encouraged to apply.

\textbf{Carleton College}  

\textbf{Mathematics and Computer Science}  

Assistant Professor of Computer Science  

A Carleton College assistant professor for a tenure-track position in computer science, in any area of specialization, to begin in September 2005. This is an untenured Assistant Professor position; tenure-track faculty members are eligible.

Applicants must hold a Ph.D. in computer science or in a related discipline, and should be able to do ongoing research and to help in the education and training of students in undergraduate research. A successful candidate will be expected to train graduate students and to develop our faculty to better reflect the diversity of our student body. Appointment at a senior level requires a strong research record and high interest in teaching. To learn by doing, students in computer science/computer engineering. Areas of interest include mobile ad hoc and sensor networks, structural biology or protein and nucleic acid modeling, multiresolution methods, control and graphics.

\textbf{Colorado School of Mines}  

Department of Mathematical and Computer Science

Assistant Professor of Computer Science

The Department of Mathematical and Computer Science at the Colorado School of Mines invites applications for an Assistant Professor level, beginning in August 2005. The computer science program within the department is experiencing a period of rapid growth. Research interests include social networks, data mining, algorithms, machine learning, simulation, and bioinformatics. Applications from candidates in all areas of Computer Science that consist with the department’s strengths will be considered. For more information, please see: http://www.miners.cs.edu/academic/.

\textbf{Clemson University}  

Department of Computer Science

Assistant/Associate Faculty Position  

Clemson University expects openings for Assistant/Associate Faculty Position in the area of Computer Science. Applications for tenure-track and tenured positions will be considered in computer science and computer engineering. Areas of interest include mobile ad hoc and sensor networks, structural biology or protein and nucleic acid modeling, multiresolution methods, control and graphics.

\textbf{Clemson University}  

University, South Carolina

Department of Mathematical and Computer Science

Tenure-track faculty positions beginning September 2005 are available. Areas of interest include mobile ad hoc and sensor networks, structural biology or protein and nucleic acid modeling, multiresolution methods, control and graphics.

\textbf{Clemson University}  

University, South Carolina

Department of Mathematical and Computer Science

Tenure-track Faculty Position  

Clemson University requests applications for a tenure-track position in computer science, in any area of specialization, to begin in September 2005. This is an untenured Assistant Professor position; tenure-track faculty members are eligible.

Applicants must hold a Ph.D. in computer science or in a related discipline, and should be able to do ongoing research and to help in the education and training of students in undergraduate research. A successful candidate will be expected to train graduate students and to develop our faculty to better reflect the diversity of our student body. Appointment at a senior level requires a strong research record and high interest in teaching. To learn by doing, students in computer science/computer engineering. Areas of interest include mobile ad hoc and sensor networks, structural biology or protein and nucleic acid modeling, multiresolution methods, control and graphics.

College of William & Mary  

Faculty Positions in Computer Science

Applicants are invited for a tenure-track faculty position in Computer Science or in the Engineering Department. The College of William & Mary is an equal opportunity/Affirmative Action employer. We are committed to building a diverse and inclusive community. Women and members of minority groups are especially encouraged to apply.

\textbf{Colgate University}  

Chair, John Luis Obiopo

Computer Science Department

Tenure-track Faculty Position in Computer Science and Computer Mathematics

Full-time academic year tenure-track Computer Science and Computer Engineering faculty positions beginning September 2005 at Assistant/Associate levels. Areas include teaching core undergraduate courses, and establishment of a program of ongoing research and to help in the education and training of students in undergraduate research. A successful candidate will be expected to train graduate students and to develop our faculty to better reflect the diversity of our student body. Appointment at a senior level requires a strong research record and high interest in teaching. To learn by doing, students in computer science/computer engineering. Areas of interest include mobile ad hoc and sensor networks, structural biology or protein and nucleic acid modeling, multiresolution methods, control and graphics.

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\textbf{Computer Science Department}  

Boston College  

Computational Biology/Bioinformatics Tenure-track Faculty Position

The Boston College Biology Department invites applications for a tenure-track faculty position in the area of computational biology/bioinformatics. This search is in the Assistant Professor level, although exceptionally senior candidates will be considered. The University extends opportunity to competitive startup funding and research space with the expectation that the successful candidate will establish a vigorous, externally funded program. Boston College offers a college-wide computational biology research program and a major in computational biology. The successful candidate will be expected to train graduate students and to participate in the teaching mission of the department, which has added five new tenure-track faculty members over the past four years. Applicants should prepare a curriculum \textit{vitae}, a statement of present and future research is planned. This year, a new bioinformatics faculty with postdoctoral training and extensive experience is planned to move into a new facility in 2006 and to establish a doctoral program starting in 2007. The Computer Science Department expects to train graduate students and to establish a vigorous computational biology and bioinformatics minor. Women applicants at the assistant professor level are especially encouraged to apply.

\textbf{California Polytechnic State University}  

San Luis Obispo  

Computer Science Department

Tenure-track Faculty Positions in Computer Science and Computer Mathematics

Full-time academic year tenure-track Computer Science and Computer Engineering faculty positions beginning September 2005 at Assistant/Associate levels. Areas include teaching core undergraduate courses, and establishment of a program of ongoing research and to help in the education and training of students in undergraduate research. A successful candidate will be expected to train graduate students and to develop our faculty to better reflect the diversity of our student body. Appointment at a senior level requires a strong research record and high interest in teaching. To learn by doing, students in computer science/computer engineering. Areas of interest include mobile ad hoc and sensor networks, structural biology or protein and nucleic acid modeling, multiresolution methods, control and graphics.

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\textbf{Colorado School of Mines}  

Department of Mathematical and Computer Science

Assistant Professor of Computer Science

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**Computer Research News**

**Professional Opportunities**

**Virginia Commonwealth University** invites applications for the position of Professor and Chairperson of the Department of Computer Science. VCU is a Carnegie Doctoral Research University located in Richmond, Virginia. Richmond has a population of over 200,000 and is also home to the VCU Medical Center, which contains the nation’s fourth largest graduate medical education program. The Department, which was founded in 1965, is located in the historic School of Computing and offers undergraduate and graduate degrees in Computer Science, and excellent working relationships with both Informatics and Computer Engineering. The Computer Science Program has offered baccalaureate, certificate, and master’s degrees for over 35 years. VCU is a member of the Association for Computing Machinery, the Institute of Electrical and Electronic Engineers, the Computing Research Association, and the ACM. The Computer Science Program offers a PhD in Computer Science with concentrations in Artificial Intelligence and Computer Architecture.

Candidates for this position must be eligible for employment in the United States and should have completed a computer science PhD. VCU is an equal opportunity/affirmative action employer. Candidates for this position should contact the screening committee chair, Dr. Robert Kluit, Chair, Computer Science, Virginia Commonwealth University, Fairfax, VA 22030-8742. Review of applications will continue until the position is filled.

Virginia Commonwealth University is an Equal Employment Opportunity/Affirmative Action Employer.

**Duke University** is an affirmative action, equal opportunity employer.

**Emory University**

Department of Computer Science

Tenure/Tenure-track Position

The Emory University Department of Computer Science invites applications for an anticipated tenure-track Assistant Professor position at any rank in areas of distributed systems. The Department will be open to candidates with research interests in areas such as cloud computing, distributed databases, and network programming and will consider applications at any rank. The Department is committed to excellence in teaching, research, and service. Please send your letter of application, a current vita, names and contact information of at least three references, and a list of publications or other relevant materials to:

Emory University
Computer Science
Emerson Center for Scientific Computation
Atlanta GA 30322

Applicants must submit a letter of application, a current vita, and the names of three references to: Computer Science Recruiting, Department of Computer Science, Dartmouth College, Hanover, NH 03755. Screening will begin November 1, 2004, with initial interviews expected to be held in December 2004. More information about the position(s) is available at http://www.cs.dartmouth.edu.

Dartmouth College is an affirmative action, equal opportunity employer. Women and minority candidates are encouraged to apply.

**The Florida State University**

Department of Computer Science

Tenure-track Position

The Department of Computer Science invites applications for a tenure-track position at any rank, beginning August 2005. Our department is engaged in a broad range of research in areas such as software engineering, computer systems architecture and compilers. Strong applicants in any area of computer science will be considered. Applications will be reviewed until the position is filled.

Applications must be submitted online via http://www.cs.fsu.edu/positions/apply.html. Questions can be e-mailed to computer.science@fsu.edu.

Florida State University is an Equal Opportunity/Affirmative Action employer.

**Duke University**

Department of Computer Science

Duke University is an equal opportunity/affirmative action employer, and encourages applications from women, members of minority groups, veterans, and those with disabilities.

**Emory University**

Department of Computer Science

Emory University is an equal opportunity/affirmative action employer.

**Florida State University**

Computer Science

Florida State University is an equal opportunity/affirmative action employer.

**Duke University**

Department of Computer Science

Duke University is an equal opportunity/affirmative action employer.
**Computing Research News**

**November 2004**

**Georgia State University**

**Dean of the College of Computing**

The College of Computing at Georgia State University invites applications for an Assistant Professor at the rank of Assistant Professor. The College of Computing at Georgia State University invites applications for an Assistant Professor at the rank of Assistant Professor.

**Harvey Mudd College**

**Computer Science Department**

The Department of Computer Science at Harvey Mudd College is seeking a full-time Assistant Professor. The Department of Computer Science at Harvey Mudd College is seeking a full-time Assistant Professor.

**Lafayette College**

**Computer Science Department**

The Department of Computer Science at Lafayette College is seeking a full-time Assistant Professor. The Department of Computer Science at Lafayette College is seeking a full-time Assistant Professor.

**Miami University**

**School of Computer Science**

The School of Computer Science at Miami University invites applications for a tenure-track assistant professor position beginning Fall 2005.

**McGill University**

**School of Computer Science**

The School of Computer Science at McGill University invites applications for a tenure-track assistant professor position beginning Fall 2005.

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**Miami University**

**Department of Mathematics and Computer Science**

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**Miami University**

**Department of Mathematics and Computer Science**

The Department of Mathematics and Computer Science at Miami University invites applications for a tenure-track assistant professor position beginning Fall 2005.
**Professional Opportunities**

The eight original “Public Ivy” schools, in collaboration with Oak Ridge National Laboratory (ORNL), are currently engaged in a joint effort to develop the nation’s top engineering and applied science graduate programs. These programs are intended to prepare students for careers in research, engineering, and applied science. The joint effort involves providing students with access to state-of-the-art research facilities and equipment, as well as opportunities to work with leading scientists and engineers. Additionally, the programs aim to foster interdisciplinary collaborations and promote diversity in the fields of engineering and applied science.

ORNL is the premier division for advanced computing, energy, and physical research at Battelle. The laboratory conducts cutting-edge research in a wide range of areas, including high-performance computing, nuclear energy, and renewable energy. ORNL is committed to advancing science and technology to address some of the most pressing challenges facing society.

**Oak Ridge National Laboratory (ORNL)**

**Director (50216897)**

The newly formed Computational Biology Division at Oak Ridge National Laboratory (ORNL) is seeking a Director for the Director of Computational Biology. The Director is responsible for the overall direction and management of the Computational Biology Division. The Director will lead a team of highly qualified scientists and engineers to develop and deploy state-of-the-art computational and data analysis tools to address complex scientific and engineering problems.

**Responsibilities**

- Develop and lead a successful program in computational biology, which supports the Director's vision for advancing the field.
- Establish and maintain effective working relationships with internal and external partners.
- Manage the division's research programs, ensuring alignment with ORNL's mission and strategic priorities.
- Communicate the division's research and development efforts to the broader scientific community and the public.

**Qualifications**

- Ph.D. in a relevant field, such as computational biology, bioinformatics, or computer science.
- Demonstrated record of excellence in both research and administration.
- Ability to lead and manage a large, complex organization.
- Strong communication skills and ability to effectively collaborate with stakeholders from diverse backgrounds.

**Application**

- Applications should be submitted electronically to the ORNL's Human Resources website. Additional information can be found at http://www.ornl.gov/jobs.

**National Science Foundation (NSF), Division of Computer and Network Science (CNS)**

**Director (50216897)**

The NSF Director for Computer and Information Science and Engineering (CISE) in the Division of Computer and Network Sciences (CNS) is seeking a Division Director for the position of Program Director in the Computing, Computing, and Cyberinfrastructure (CCS) Program. The Program Director will have primary responsibility for all aspects of the program, including project development and support, program implementation, and oversight of the program's budget. Additionally, the Program Director will provide leadership and guidance to the program's stakeholders and will be involved in the development of the program's strategic direction and goals. The Program Director will work closely with other program directors and will be responsible for ensuring that the program meets its scientific and societal objectives.

**Responsibilities**

- Develop and implement the program's strategic direction and goals.
- Provide leadership and guidance to the program's stakeholders.
- Oversee the program's budget and ensure that it is used effectively.

**Qualifications**

- Ph.D. in computer science, information science, or a related field.
- Demonstrated record of excellence in research and publication.
- Strong communication skills and ability to effectively collaborate with stakeholders from diverse backgrounds.

**Application**

- Applications should be submitted electronically to the NSF's Human Resources website. Additional information can be found at http://www.nsf.gov/od/ors/humanrsc/index.jsp.

**New York University (NYU), Department of Computer Science**

**Program Director (50216897)**

The Department of Computer Science at New York University (NYU) is seeking a Program Director for the Division of Computer Science (CSS). The Program Director will be responsible for the overall direction and management of the Division. The Program Director will work closely with other program directors and will be responsible for ensuring that the program meets its scientific and societal objectives.

**Responsibilities**

- Develop and implement the program's strategic direction and goals.
- Provide leadership and guidance to the program's stakeholders.
- Oversee the program's budget and ensure that it is used effectively.

**Qualifications**

- Ph.D. in computer science, information science, or a related field.
- Demonstrated record of excellence in research and publication.
- Strong communication skills and ability to effectively collaborate with stakeholders from diverse backgrounds.

**Application**

- Applications should be submitted electronically to the NYU's Human Resources website. Additional information can be found at http://www.cs.nyu.edu.

**Montclair State University**

**Dean of Natural and Mathematical Science Tenure-track position (50216897)**

Montclair State University is seeking a Tenure-track position in Computer Science. The position will be available beginning September 1, 2005. The Department has a strong commitment to undergraduate education and a diverse faculty. Applicants should have a doctoral degree in Computer Science or a closely related field and a strong commitment to teaching. Applicants should have a strong background in computer science and a commitment to interdisciplinary research. The successful candidate will be expected to teach courses in computer science, conduct labs, perform service activities, and contribute to the university's mission.

**Responsibilities**

- Develop and implement the program's strategic direction and goals.
- Provide leadership and guidance to the program's stakeholders.
- Oversee the program's budget and ensure that it is used effectively.

**Qualifications**

- Ph.D. in computer science, information science, or a related field.
- Demonstrated record of excellence in research and publication.
- Strong communication skills and ability to effectively collaborate with stakeholders from diverse backgrounds.

**Application**

- Applications should be submitted electronically to the MSU's Human Resources website. Additional information can be found at http://www.montclair.edu.
Computing Research News

November 2004

Some travel may be required.

The successful candidate will be an equal opportunity employer committed to building and maintaining a diverse work force.

Professional Opportunities

Major Duties and Responsibilities:

Position requires a minimum of a BS in computer science or one of the computational sciences, with five or more years of research experience. The successful candidate will analyze high-performance computing software and parallel computer architectures. Requires demonstrated experience in high-performance computing development on parallel computer systems. Must be able to work with expert systems using message passing, MPI, and Fortran 90, C, or C++, along with expertise in architecture, operating systems, compilers, runtime systems and programming tools.

Candidates must have a proven record of research accomplishments and interest to participate in research efforts in a team environment. Demonstrated communication skills clearly and concisely both orally and in writing.

Inquiries and expressions of interest may be directed to:

Staffing Computing and Computational Sciences Directorate
Oak Ridge National Laboratory
1400 Olive Lane, MS W415
Oak Ridge, TN 37831-6183
Email: CCSD_Staffing@ornl.gov

Alternatively, interested candidates may contact our search consultant in full confidence.

P. J. O’Hare
Executive Search Consultant
2956 Myers Drive NE
Marietta, GA 30062-4329
Phone: 404-642-9105
Email: pjosearch@mindspring.com

More information about the Oak Ridge National Laboratory is available at http://www.ornl.gov

P.O. Box 2008
Oak Ridge, TN 37831-6163

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Professional Opportunities

The Pennsylvania State University
Department of Computer Science and Engineering
Faculty Search for a Chair
Applications are invited for several tenure-track faculty positions in the Department of Computer Science and Engineering. Outstanding candidates in all areas of computer science and engineering will be considered. Areas of particular interest are software engineering, security, algorithms, computational optimization, operating systems, distributed and peer-to-peer systems, computer architecture, computer图形数据管理，with a focus on data analysis and programming languages. Applicants with research on transformable aspects of these disciplines, for example "transformable computing," will be given priority. Candidates are also sought for international interactions in the areas of Computational Science with a focus on high performance modeling with applications to Bioinformatics, VLSI design, Analog and Mixed Signal circuits, Biomedical Imaging, and Computational Imaging.

The Department of Computer Science and Engineering (CSE) at The Pennsylvania State University is a large and interdisciplinary department with more than 150 faculty. We seek to build a world-class department that integrates computing and other disciplines, including science, engineering, technical development, and management. Candidates are expected to pursue an active research agenda and to contribute to several major hubs are operated by three institutes: the Institute for Computational Science and Technology, the Institute for Complex Engineered Systems, and the Institute for Computational Engineering and Sciences. The candidate must also have a significant portion of the Center's research project areas (organized as institutes) and multidisciplinary enterprise. The candidate must have strong and leadership skills and research vision.

The Department of Computer Science and Engineering seeks nominations and applications for the position of Chair. The successful candidate will be expected to maintain an active record of funded research, a productive teaching program, and a strong and active record of service.
COMPUTING RESEARCH NEWS November 2004

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Professional Opportunities

Interviewed candidates should send curriculum vitae, statements of research and teaching interests, and names of three to five references to the following representatives to Chair, Computer Science Department San Francisco State University 1600 Holloway Avenue San Francisco, CA 94132-1125 (e-mail all the materials to cse-search@cse.buffalo.edu)

Applicants should also arrange to have at least three of your references send their letters directly to the same address. Application deadlines are January 2005, although the search committee will continue to review applications until the position is filled.

Southern Illinois University

Chair, Faculty Search Committee

Computer Science Department

Southern Illinois University

For more information about the position, please contact:

http://www.cs.txstate.edu/recruitment or email: cse-search@cse.buffalo.edu

The University of Arizona

The University of Arizona

The University of Arizona

The University of Arizona

The University of Arizona

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The University of Arizona

The University of Arizona

The University of Arizona

The University of Arizona
University of California, Berkeley

Computing and Information Science

The Department is administered by the Office of Computing and Information Science (CIS), a large unit that also co-sponsors faculty positions in the Faculty of Computing and Information Science (CIS) with any department on campus. Applications that are not appropriate for the Department of Computing and Information Science will automatically be considered by the CIS. In particular, there is a campus-wide initiative to encourage faculty in Economics, Science & Technology Studies, and the School of Operations Research & Industrial Engineering to consider the College of Computing and Information Science in their search. Further information about the department and the Faculty of Computing and Information Science is available on the World Wide Web at http://www.cs.berkeley.edu.

Cornell University

Located in the Finger Lakes region of New York State, Cornell is committed to creating a more diverse and inclusive campus in which to work and live. Applications are invited for tenured-track positions. Depending on experience, available positions are advertised as the associate, assistant, or full professor level. Applicants must possess a Ph.D. in computer science and have demonstrated research accomplishment at the highest level as well as outstanding teaching ability and strong publication records. We are particularly interested in candidates on campuses that promote interdisciplinary research and teaching in the computing and information sciences. Applications will be evaluated in this larger context by the CIS. In particular, the re is a campus-wide commitment to establishing Berkeley as the premier institution for teaching and research. Applicants should have (or be about to receive) a Ph.D. and have a substantial record of research and teaching in a quantitatively oriented field from one of the above departments, and be able to enhance the broad area of computing research. Specialized areas may include, but are not limited to:

- Statistical learning and algorithms
- Biological data analysis
- High performance computing
- Data mining and data science
- Computer networks and security
- Machine learning and statistical learning

We seek candidates with demonstrated excellence in teaching and scholarship. Successful candidates will be expected to establish a quality research program and teach both graduate and undergraduate courses in their home and other areas of Computer Science. The University of California, Berkeley is an equal opportunity/affirmative action employer. Women, ethnic minorities, and applicants with disabilities are encouraged to apply.

University of California, Berkeley

Computing and Information Science

The University of California, Berkeley invites applications for an appointment in the area of computational biology. Established in 1968, the Program has grown to a faculty and student body of approximately 250. The Program emphasizes interdisciplinary research and education in the areas of systems, mobile systems, multimedia systems, and networking.

Applications are invited for tenure-track or tenured positions in the area of computational biology. Successful candidates will be expected to establish a quality research program and teach both graduate and undergraduate courses in their home and other areas of Computer Science. The University of California, Berkeley is an equal opportunity/affirmative action employer. Women, ethnic minorities, and applicants with disabilities are encouraged to apply.

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Tenure-track Faculty Openings

The University of Illinois at Urbana-Champaign, Department of Computer Science, is soliciting applications for full-time, tenured-track and tenured professors. All areas of computer science will be considered, including, but not limited to: algorithms, artificial intelligence, computer security, computer architecture, computer graphics, databases, data mining, digital signal processing, distributed systems, artificial intelligence, computer networks, network security, programming languages, software engineering, cryptography, and optimization.

Interested applicants should send a cover letter, resume, and names of three references (including one, if possible, a current departmental colleague) to ref. # 68326 (attachments in pdf, postscript, or Word).

The University of Maryland, Baltimore County, Department of Computer Science, is soliciting applications for full-time, tenure-track assistant or associate professor positions. Applicants in all areas of computer science, including, but not limited to: computer networks; computer security, architecture, and theory; algorithm; databases; and computer systems, are encouraged to apply. Applicants should send a cover letter, curriculum vitae, and three letters of recommendation to: Professor Charles A. Mundie, Chair of Faculty Search Committee, Department of Computer Science, University of Maryland, Baltimore County, 1000 Hilltop Circle, Baltimore, MD 21250-5398. Further details on research, programs, and the UMBC vision, the Department has excellent educational and research facilities, and outstanding laboratory space and state-of-the-art technology. The UMBC Department of Computer Science and its students provide a diverse and excellent environment in which projects often span several research groups. Applicants in all areas of computer science and engineering are encouraged to apply. All candidates must show strong potential for excellence in research and teaching in an academic environment.

The Department of Computer Science is located in the Boeing Computer Science and Engineering Building. Please send applications electronically to: csesearch@eecs.umich.edu. Please quote ref. # 04A419 or Search # 05A155 in the email header. Knowledge of the University of Michigan's computing research news.
University of Notre Dame

Department of Computer Science and Engineering

Faculty Positions

The Department of Computer Science and Engineering at the University of Notre Dame (http://www.cse.nd.edu/) invites applications for tenure-track faculty positions. Rank and area of specialty are open. Successful applicants are expected to be talented, well-qualified candidates who will make important contributions to both teaching and research. For further information, please contact: Moira Kiltie, Search Committee Chair, Faculty Recruiting Committee, Department of Computer Science and Engineering, 419 Eddy Bldg, University of Notre Dame, Notre Dame, IN 46556. Ph. 574.631.6307. E-mail: faculty.search@cs.uoregon.edu

University of Oregon

Computer and Information Science

Faculty Positions

The Department of Computer and Information Science (CIS) at the University of Oregon (http://www.csee.usf.edu/) invites applications for one tenure-track faculty position open for fall 2005. Applicants are encouraged to emphasize areas in the areas of networking, programming languages, security, database management, and artificial intelligence. Successful applicants will teach at both the undergraduate and graduate levels. Successful candidates are expected to engage in substantial research, to serve on departmental committees, and to participate fully in the department's activities. The position is open until filled; review of applications will begin on October 22, 2004. For more information, please go to the Department of Computer and Information Science Web Site at http://www.cs.uoregon.edu or mail your application to the Faculty Search Committee, University of Oregon, Eugene, OR 97403-1202

University of Pennsylvania

Department of Computer and Information Science

Faculty Positions

The University of Pennsylvania invites applications for tenure-track faculty positions in the areas of computational science. The position will be responsible to the Director of the Institute for Data, Systems, and Society (http://www.idss.upenn.edu/). The position will be located in the Department of Computer and Information Science. The next faculty position may be in any of the following areas: artificial intelligence, applied probability and statistics, computational biology, databases for the use and needs of the biomedical sciences, data mining, machine learning, networking, scientific visualization, and systems. Applications are encouraged from scientists with teaching and research interests in areas broadly construed as: database systems and technologies; data mining and data exploration; Internet technologies and applications; scientific visualization and data analysis; machine learning methods; and computational biology. The position is open until filled; review of applications will begin on February 15, 2005. The Department of Computer and Information Science (http://www.cis.upenn.edu/) is an active, informal community of over 150 students and more than 200 faculty members, with a strong emphasis on faculty interactions. The Department is particularly interested in candidates who have demonstrated a commitment to diversity and are committed to supporting and mentoring women and underrepresented minorities. A Ph.D. in computer science or a related field is required. The position is open until filled, but applications received by January 15, 2005 will be assured full consideration. Electronic applications should be submitted until positions are filled. Questions can be directed to faculty search@cis.upenn.edu

University of South Carolina

Computer and Information Science

Faculty positions

The University of South Carolina values diversity and seeks talented students, faculty, and diverse and friendly environments. The University of South Carolina values diversity and seeks talented students, faculty, and diverse and friendly environments. The University of South Carolina values diversity and seeks talented students, faculty, and diverse and friendly environments. The University of South Carolina values diversity and seeks talented students, faculty, and diverse and friendly environments.

University of Texas at Arlington

Computer and Information Science

Faculty positions

The University of Texas at Arlington invites applications for tenure-track faculty positions in the Department of Computer and Information Science. Applications are encouraged from scientists with teaching and research interests in areas broadly construed as: database systems and technologies; data mining and data exploration; Internet technologies and applications; scientific visualization and data analysis; machine learning methods; and computational biology. The position is open until filled, but applications received by January 15, 2005 will be assured full consideration. Electronic applications should be submitted until positions are filled. Questions can be directed to faculty search@cis.upenn.edu

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The University of Southern California Information Sciences Institute announces positions in several areas. The Institute, located in Marina del Rey, is currently seeking researchers for research projects with a host of federal agencies, including DARPA, NASA, the Department of Defense, and NSA. The Institute is interested in both short-term contracts and long-term projects (three years or more). Applications are invited from those with the appropriate background or experience in the following areas:

- **Computer Network Protocols**
- **Network Modeling and Simulation**
- **High Speed Router Architecture**
- **Ad-Hoc Wireless Networks**
- **Internet Protocol Security**
- **Mobile Ad-Hoc Networks**
- **Network Management**
- **Network Security**
- **Network Traffic Analysis**
- **Network Administration**

Applicants must hold a Ph.D. degree in Computer Science or a related field. Some positions may be available to recent PhD graduates. Inquiries should be directed to:

**Dr. John Key**
Director of Research
Information Sciences Institute
18505 Yesler Way, Suite 600
Marina del Rey, CA 90292-7999
Email: john.key@isi.edu

The University of Southern California is an Equal Opportunity/ Affirmative Action Employer. Women, minorities, and individuals with disabilities are encouraged to apply.
November 2004

Professional Opportunities

The Department of Computer Science at the University of Texas at Dallas invites applications for several tenure-track faculty positions in all areas in the Department of Computer Science, Software Engineering, and the leading institution in undergraduate computer science education. Its existing strengths include algorithms, architecture, complex, distributed systems, graphics, operating systems, programming environments, real-time and embedded systems, security, sensor networks, and software engineering.

Candidates must have a Ph.D. in Computer Science, or equivalent, and a demonstrated commitment to excellence in teaching and research, and the names and contact information of three or more references should be included. Applications should be submitted by December 1, 2004. Applications will continue to be accepted until the positions are filled. The University of Texas at Dallas is an Equal Opportunity/Affirmative Action employer.

University of Virginia

Department of Computer Science

Tenure-track positions are available at the University of Virginia in computer science and software engineering, with priority for positions in the areas of networking, computer architecture, scientific computing, and software security. Candidates at all levels of experience are encouraged to apply. Successful applicants who have collaborative relationships with companies are expected to develop and maintain a productive relationship with industry. Those interested in joining a Ph.D. in Computer Science, or equivalent, are required, with evidence of excellence in teaching and research. Rank and salary will be commensurate with experience and achievements, and appointments are expected to commence during the 2005 calendar year. Exceptional candidates will be considered for a Tenure 2 Chandrasekhar Chair. Applications should be sent by electronic mail to: chandra@virginia.edu. Applications should be sent by electronic mail to: cs-search@utdallas.edu, or view the Web site at http://www.ecs.utdallas.edu/welcome.html. Applicants should mail their resume with a letter of interest and three or more references as soon as possible to:

Search Committee Chair, Department of Computer Science
University of Virginia
Academic Search #761
P.O. Box 830688, M/S AD 23
Richardson, TX 75083

The University of Texas at Dallas is an Equal Opportunity/Affirmative Action employer and strongly encourages applications from women and minorities. The University does not discriminate on the basis of sex, religion, disability, age, race, color, national origin, or veteran status. The University is committed to ensuring a nonintimidating, nonhostile environment and providing equal employment opportunity and equal access to University facilities and programs for all people without regard to sex, religion, disability, age, race, color, national origin, or veteran status. The University promotes an environment in which all individuals are treated with respect and dignity. The University endeavors to ensure equal opportunity, access, and development for all qualified minority candidates, women, and people with disabilities.

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University of Wisconsin-Madison

Computer Sciences

Faculty Professor

The Computer Science Program in the

University of Wisconsin-Madison, consistently ranked among the top
ten departments in the nation, has embarked on a

multi-year effort to significantly enhance the strength of the department. As part of this
effort we have multiple faculty positions available beginning August 2005.

We invite applications from outstanding candidates in all areas of computer science.

Applicants should have a Ph.D. in Computer Science or a closely related field, and
demonstrated strength in scholarly research.

Appointment will be at Assistant Professor level, except in the following areas:

exceptional candidates will be considered at the Senior level.

Successful candidates will be expected to continue their

research and in teaching. Candidates for

Assistant/Associate Professor level will also be

considered.

We invite applications from outstanding candidates in areas including Software Engineering,

Other areas of Computer Science will also be

considered.

requests for additional information and other
guidance are invited.

Chair, Faculty Recruiting Committee

For further information, send mail to

E-mail: recruit@cs.uwm.edu

Wayne State University

Department of Computer Science and Engineering

Faculty Recruitment Coordinator for

Applications will be considered as they are

received. Candidates will be considered

throughout 2005, may not be given full consideration.

For more information, please visit our website
to see the Faculty Recruitment Coordinator for

Department of Computer Science and Engineering

Campus Box 1045

1400 East Creedon Avenue

St. Louis, MO 63130-4899

Applications will be received by

E-mail: recruit@cs.uwm.edu

Wayne State University

Department of Computer Science and Engineering

Faculty Position

The Department of Computer Science of Wayne State University invites applications for a tenure-track faculty position at the Assistant/Associate Professor level in the

areas of Computer System Security and Medical Informatics.

Interested candidates should apply by January 10, 2005 and will continue until the positions are filled.

Wayne State University is an equal

opportunity/affirmative action employer.

Effective August 2005.

WPI is an equal opportunity/affirmative

action employer.

November 2004