U.S. Legislative Update
By Lisa Thompson

Sensenbrenner IT Bill
Approved by House

On February 15, the House passed the Eavesdropping and Information Technology Research and Development Act (H.R. 2086) on a voice vote. The bill, which would authorize a new National Information Technology Research and Development (NITR&D) Program, was introduced by Representative David E..

Rick B. (R-WI), chair of the House Science Committee. The National Science Service, which was established under the.

Research and Development Act (H.R. 2086), would maintain the U.S. as the world leader in computing and communication technologies. It is intended, in fact, to imagine that the U.S. economy would have enjoyed the record-setting growth of the last nine years without federal investments in computer science and computing technologies. I believe this bill will fuel future growth and set the stage for revolutionary innovations in areas as diverse as elementary education and biomedical applications.

During floor consideration, Hall successfully offered an amendment to increase the National Science Foundation's funding allotment within the bill, which would provide a total of $6.8 billion over five years to seven federal agencies. The original version of the legislation addressed only six agencies, all under the Science Committee's jurisdiction. But Rep. Constance A. Morella (R-MD), after obtaining the cooperation of the

House Commerce Committee, successfully offered an amendment adding $1.2 billion for IT research at the National Institutes of Health, which falls under the jurisdiction of that committee. The seven agencies are: NSF, N.I.H., the Department of Energy, the National Aeronautics and Space Administration, the National Oceanic and Atmospheric Administration, the National Institute of Standards and Technology, and the Environmental Protection Agency.

CRA Board Chair Edward Lazowska also appeared at the news conference to hail the action by the House. "In authorizing programs focused on long-term, broad-based information technology research, the NITR&D Act will strengthen the appropriate federal role in R&D and enable vigorous efforts to make revolutionary advances in computing, networking, and other information technologies," Lazowska said. "The federal investment in fundamental IT research over the past decades provided the fuel that drove our thriving economy. Today, programs authorized by H.R. 2086 will ensure that the U.S. continues to be well supplied with new information technologies — and will help in building a capable IT workforce — to meet the challenges of the future," he continued.

In February 1999, the President's Information Technology Advisory Committee (PITAC), an independent, congressionally mandated panel of experts in information technology research and the IT industry, issued the results of a study concluding that the federal investment in information technology R&D is inadequate and too focused on near-term problems. It recommended: expanding support for long-term, broad-based, precompetitive IT research, emphasizing four priority areas — software, scalable information systems, high-end computing, and the socioeconomic impacts of IT; and balancing support among a range of project modes. The NITR&D Act addresses the concerns raised by the PITAC by implementing its key recommendations.

A few House passage, CRA issued a statement commending it.

Sensenbrenner, the bill's sponsors, and their colleagues in the U.S. House of Representatives for the alacrity with which they responded to the PITAC report and for taking a sound and responsible approach to the Nation's research policy. The NITR&D Act has been one of CRA's top legislative priorities since the bill was introduced in June 1999.

The NITR&D bill is unlikely to be considered in its entirety by the Senate. In early February, Senate Bill Frist (R-TN) introduced the Next Generation Internet 2000 Act (S. 2046), which would result in just the NITR&D program and devote some of its funding to research that could ease the cost of providing broadband access to rural areas. Moreover, since Mr. Frist, who chairs the Senate Commerce Committee's Subcommittee on Science, Technology, and Space, will vote the bill, the Senate Commerce Committee's ranking Democrat, Senator Richard J. Durbin (D-IL), has noted his intention to wait to see CRA's reaction to the Senate's bill before commenting on the legislation.

CRA Conference at Snowbird

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Who Was Maxwell Darksinson
CRA Conference at Snowbird
Expanding the Pipeline

Coalition to Diversify Computing Addresses Minority Issues in CSE

By Sandra Johnson-Baylor and Ann Redelfs

Information technology (IT) is driving an unprecedented expansion of the U.S. economy, exemplifying the need for students to create and retain an IT-educated workforce. A syet, minorities have not been adequately represented in this boon—a problem that the Coalition to Diversify Computing (CDC) aims to address.

The demographics of the United States are changing rapidly (California, a leader in IT, is the first state to have a minority Caucasian population), and yet less than one percent of the researchers in computer and computational science are African Americans, Latinos, Native Americans, Asians, Pacific Islanders, and Native Pacific Islanders. The background on this problem is well known—the lack of resources, encouragement, and access to the solution lies in a host of programs nationwide, funded by the government and the private sector.

One approach is to develop programs designed to increase the continuing low percentage of underrepresented minorities in computer science and engineering (CSE) at all stages of the educational pipeline. This is the objective of the CDC, a national committee organized by the ACM, ADMI (the Association for Computing Science and Engineering), MIA (Minority Institution Associates), IEEE Computer Society, and CRA. Funding is provided by the Education, Outreach and Training Partnership (EOTP) for a Advanced Computational Infrastructure (EDT-PA C1), and by CRA beginning in July 2000.

CDC’s projects are led by volunteers and focus on networking opportunities, mentoring, research into the choices minorities make as they face their futures, development of a database of minority graduate students and researchers, and information dissemination. The CDC co-chair is Andrew Bernat, University of Texas, El Paso (abernat@cse.utep.edu), and Valerie Taylor, Northwestern University (valerie@ece.nwu.edu). Valerie Taylor recently replaced Sandra Johnson-Baylor of IBM, who stepped down after three years’ service as co-chair.

This year’s CDC projects are outlined in this article; for additional information or to sign up for CDC announcements, visit http://www.npaci.edu/uteach/CDC/.

Support for Students To Attend Technical Conferences

Participating in a national technical conference is an important component of an academic career, and often students do not have the funds to attend. CDC supports students’ participation in conferences, providing them with insights into paper preparation, oral presentations, posters, and serving on conference committees. Students funded by CDC are accompanied to the conference by mentors who help them decide which sessions would be most valuable to them, and then introduce them to key members of the academic community. Interested students will need to apply (see website), and those selected will be required to write a report on their experiences.

Pat Teller, University of Texas at El Paso (pteller@cs.utep.edu), is responsible for this year’s program; in past years, Ramon Vasquez-Espinosa, University of Puerto Rico, and Margaret cathleen McMain, Virginia Tech, directed the activity.

Traveling Graduate School Workshop

A major goal of CDC, as well as for the nation generally, is to increase the number of under-represented minorities who attend graduate school in the computing disciplines. A prime strategy for attaining this goal is to bring information concerning the benefits of graduate school attendance to minority students. Because a large percentage of minority students are undergraduates at Historically Black Colleges and Universities and other minority-serving institutions, it is important to take this information to them.

The traveling graduate school workshop is designed to provide students with an honest picture of the value and the downsides of enrolling in Masters and Ph.D. programs. Presentations by visiting graduate students and faculty detail what graduate school is like, how to apply, how to get financial aid, and the benefits of attending. Further, the workshop plays a role in connecting students with possible institutions for further study. The next workshop will be held this spring in North Carolina. Forbes Lewis, University of Kentucky (lewissj@eng.uky.edu), currently on sabbatical at the University of Puerto Rico at Mayaguez, oversees this activity.

Pre-Conference Minority Networking Event

A tending conference success fully is not simply a matter of registering and showing up. A teneed to make pertinent decisions about selecting the appropriate sessions, budgeting their time, meeting people with similar interests, or connecting with others who might provide valuable career assistance.

The CDC will provide such information to minority CSE Ph.D. students who will be selected to attend a series of workshops in San Diego, California, in June 2000. Workshops 2000, June 4-6, will be the fourth in a series of annual workshops conducted by the Computing Research Association on “Expanding the Pipeline.” and the reasons for their successes. A successful strategy for attaining this goal is to bring information concerning the benefits of graduate school attendance to minority students.

It is hoped that the CDC will provide the necessary assistance to minority students and minorities in the computing disciplines.

Workshop on Best Practices

It is vitally important that a diverse group of students be recruited into, and supported in, graduate schools in the computing disciplines. Generally, attempts at both of these have not proven successful for a variety of reasons. There are, however, pilot or ongoing programs that do evidence success, and those successes need to be examined.

In 1999, CDC brought together individuals who run successful programs and a sight for forward and backward about their projects and the reasons for their successes. A report from the workshop will be disseminated at CRA’s Snowbird Conference 2000 in July and will appear in the September edition of Computing Research News.

Coalition Continued on Page 9

May 2000

Computing Research News
Vol. 12/No. 3/May 2000

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CRA Service Award Winners

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 Juris Hartmanis recently completed a two-year term as the assistant director for the National Science Foundation (NSF) for computer and information science and engineering (CISE). During his tenure, he played a key role in positioning the NSF and CISE to assume a leadership role in response to the President’s Information Technology Advisory Committee (PITAC) report. He was instrumental in shaping the discussion that led to NSF’s playing the lead role in the Information Technology Research (ITR) program.

Dr. Hartmanis will receive his award on July 10 at CRA’s Snowbird Conference 2000.

The Distinguished Service Award Committee included Stephen Yau, Arizona State (Chair), David Gries (University of Georgia), and Barbara Simons (ACM).

Juris Hartmanis

CRA Distinguished Service Award

Juris Hartmanis, Walter R. Read Professor of Engineering at Cornell University, has been awarded CRA’s Distinguished Service Award for 2000.

Dr. Hartmanis is an eminent computer scientist and a co-recipient of the 1993 ACM Turing Award. With his deep understanding of the computer science and engineering discipline and keen insight of the enormous impact of computing research to high technology, he has made outstanding contributions and played a leading role to help the public recognize the importance of computing research.

From 1990 to 1992, Dr. Hartmanis chaired the study of the scope and direction of computer science conducted by the Computer Science and Telecommunications Board of the National Research Council. This study resulted in the influential volume Computing the Future: A Bolder Agenda for Computer Science and Engineering, which had a major impact on the computing research community’s ability to look outward.

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CRA A. Nico Habermann Award

Roscoe Giles has been selected to receive the 2000 A. Nico Habermann Award. Dr. Giles is a professor in the Department of Electrical and Computer Engineering at Boston University.

For the past 25 years, Dr. Giles has worked at MIT and Boston University to increase the participation of underrepresented minorities in the computing disciplines. He has served as a faculty advisor and mentor for the Minority Information Society at Boston University, an affiliate of the National Society of Black Engineers. Dr. Giles has also mentored high school, undergraduate, and graduate students in New England and in the New England Board of Higher Education.

Because of his strong commitment to education, combined with his energy and dedication to diversifying the population of CSE students and faculty nationwide, Dr. Giles was named one of three co-chairs of the Education, Outreach, and Training (EOT) program for the NSF Partnership in Advanced Computing Infrastructure (PA C1). This program focuses on improving the computational component of K-12 education, developing K-12 computing curricula that appeal to girls and underrepresented minorities, and increasing the involvement of institutions that serve minority in PA C1.

Roscoe Giles helped to organize an NSF workshop on “Increasing Participation of Minority in the Computing Disciplines” that led to the formation of the Coalition to Diversify Computing. Dr. Giles works actively with the NSF EDUC AUSEOT-PA C1 project, A Advanced Network in Mathematical Inquiring System (A-N-M Si). This project assists colleges and universities that traditionally serve African-American, Hispanic, and Tribal communities in the development of the infrastructure and skills needed to take advantage of advanced computational techniques and resources, such as the technology Grid being prototyped by the PA C1 project. The Grid will connect people, supercomputers, virtual environments, scientific instruments, educational tools, and large data sets through a seamless, integrated, persistent environment operating over high-speed networks.

Dr. Giles co-chaired the Education Program for the SC97 conference, benefiting a large group of diverse teachers and expanding thousands of SC97 conference attendees to the K-12 use of technology. He will serve as general chair for SC2002.

Roscoe Giles will receive his award on July 10 at CRA’s Conference at Snowbird.

Members of CRA-W, A. Nico Habermann Award Committee include Corky Cartwright, Rice University (Chair), Richard Tapia (Rice University), and Valerie Taylor (Northwestern University).

CRA-W Publications Focus on Career Advancement for Women

By Ann Redeflin

Addressing the challenges facing women in computer science and engineering has long been an issue for the Computing Research Association (CRA). The mission of the CRA Committee on the Status of Women in Computer Science and Engineering (CRA-W), established in 1991, is to take positive action to increase the number of women participating in computer science and engineering (CISE) research and education at all levels.

Over the years, CRA-W has developed several projects to help women take a foothold down their chosen career paths. In an effort to reach greater numbers of people interested in seeing women succeed, CRA-W has produced three publications detailing these successful programs, and a fourth publication designed to encourage young women to pursue careers in CSE. All of these publications are, or soon will be, available on CRA-W’s website, http://cra.org/citizens/craw/, and some are available as printed copies (see website).

Examples of advice from the publication include:

- "Obtaining Federal Funding: Discussions include the importance of knowing your institutional environment, strategies for proposal submission, how to prepare and present your proposal, the ins and outs of proposal review at several federal agencies, evaluation criteria, and what to do when advised of your proposal’s success or failure. The chapter also includes information on the importance (and ‘how to’s’) of communicating with federal program managers, getting reviews before you submit your proposal, and the percentage of successful proposals at each agency.
- "Tenure: Includes information about the tenure process, building a successful track record, and obtaining tenure in academia.
- "Pullding together the wisdom and experiences from nearly a decade of workshops, CRA-W is now offering a summary publication featuring timely and timeless information to help women advance in their careers. The publication was authored by several of the women who have conducted the workshops over the years: Mary Jane Irwin, Pennsylvania State University; Fran Berman, University of California, San Diego; Jan Cuny, University of Oregon; Caroline Wardle, National Science Foundation; and Sheila Castaneda, Clark College. Although written primarily for those pursuing academic careers, this publication provides goal-oriented advice for anyone seeking to climb the ladder in their organization.

CRA-W Continued on Page 8
Who Was Maxwell Dworkin?

By Albert Gold

That's a trick question that I suspect will be asked of incoming Harvard freshmen for generations to come. Maxwell Dworkin is Harvard's new computer science and electrical engineering building, which opened in September 1999. It is named in honor of Mary Maxwell Gates and Beatrice Ballmer, the mothers of the building's principal donors, alumni Bill Gates and Steve Ballmer. A photo of the exterior is shown in Figure 1.

Computer science and electrical engineering are fields marked for rapid expansion at Harvard. Overcrowded facilities for them were scattered through three buildings. Computer science is the fastest growing undergraduate concentration here. These factors combined to make a new, state-of-the-art facility our highest new construction priority. Fittingly, the university chose to place it on the site formerly occupied by the Aiken Computation Laboratory, which was demolished to make way for the new building. Faculty who had occupied Aiken were asked of them the only constant in this area. Hence, adaptability to change is the central design philosophy. The main vertical distribution for data and voice communications is via 18 four-inch conduits, most of them still empty, running up the height of the building at its center. Horizontal distribution on each floor is via open cable trays at a height of about eight feet running in the hallways. Each office and laboratory has a dual, pop-out front electrical raceway, which carries power and data around the room at counter-top height; outlets and jacks can be located and relocated anywhere in a matter of minutes. In addition to gigabit to the desktop Ethernet connectivity, the building has wireless network coverage via a base station on every floor.

A mit Maxwell Dworkin approaches the end of its first academic year of use, the faculty seem most pleased with their new quarters and the attempt to use open and interconnected spaces to encourage interaction among faculty and students appears to have worked much as planned.

Albert Gold is a sociology dean at Harvard University (gold@deas.harvard.edu).

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Figure 1

Figure 2. Ground Floor

Figure 3. One of Three Upper Floors

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committee chaired by then Dean of the Division of Engineering and Applied Sciences, Paul C. Martin, the architects, Payette Associates, Inc. of Boston, produced a plan for a five-story building of 100,000 gross square feet containing offices and research laboratories for 30 faculty members, their graduate students, postdocs, and professional and supporting staffs on its upper three floors. The basement level is devoted to instructional laboratories, workspaces for teaching fellows, a server room for the central computer network, and the building's electrical and mechanical services. The ground floor contains a 120-seat amphitheater, a 48-seat executive seminar room with an associated breakout room, a 35-seat classroom, a public computer area outfitted with 17 work stations, student lounge and service areas, and offices for the division's computer support staff. The classrooms are all fitted with the latest available multimedia instruction aids and the executive seminar room is equipped to support two-way, interactive distance learning. Power and network connections are available at every seat in these classrooms. The ground floor plan is shown in Figure 2.

The upper three floors, each with a similar floor plan, house the faculty and their associated research groups. They are interconnected by an open central double staircase designed to facilitate ease of transit and interaction among the occupants. On each of these levels the staircase leads to a large open lounge area furnished with couches, comfortable chairs, small tables, large marker boards, power and network connections, and public PCs. A gain, interaction is the intent. A conference room is adjacent to each of these lounges. A second conference room and a smaller lounge area, similarly equipped, are available on each floor. Figure 3 illustrates the layout of one of these floors. The massive 20,000 square foot footprint of the building, dictated by a combination of program requirements and local restrictions on building height, represents a major design challenge. The interior is to avoid having a dark, cavernous feeling. The use of natural light was the architect's response to this challenge. The central staircase is topped by clerestory windows, and the stair treads are made of frosted glass to allow the light to filter down to the office levels. The ends of the wide main corridor, some 240 feet long, are entirely of glass. Windows everywhere are huge, with the faculty offices' south walls being entirely glass from desk-top height up. Each of these floors is connected to Pierce Hall, another major building in the Engineering and Applied Sciences complex, via an enclosed bridge. This provides Maxwell Dworkin occupants with direct indoor access to the division's administrative offices and its library, as well as to the classrooms and their colleagues in other buildings housed there.

The byword in planning Maxwell Dworkin's technology infrastructure was "flexibility." The committee was convinced that change will remain the only constant in this area. Hence, adaptability to change is the central design philosophy. The main vertical distribution for data and voice communications is via 18 four-inch conduits, most of them still empty, running up the height of the building at its center. Horizontal distribution on each floor is via open cable trays at a height of about eight feet running in the hallways. Each office and laboratory has a dual, pop-out front electrical raceway, which carries power and data around the room at counter-top height; outlets and jacks can be located and relocated anywhere in a matter of minutes. In addition to gigabit to the desktop Ethernet connectivity, the building has wireless network coverage via a base station on every floor.

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NAE Elects New Members

The National Academy of Engineering (NAE) has again elected members of the computer science and engineering community to the Academy. NAE President W. William Adams Jr. announced the election on February 17.

This honor is reserved for those who have made "important contributions to engineering theory and practice," including significant contributions to the literature of engineering theory and practice, and those who have demonstrated "unusual accomplishment in the pioneering of new and developing fields of technology."

This year the Academy elected 78 engineers and eight foreign associates to membership in the Academy. This brings the total U.S. membership to 2,027 and the number of foreign associates to 157.

NAE new members in computer science and engineering fields include:

- Tamer Basar, Fredric G. and Elizabeth H. N. Larsson Professor of Electrical and Computer Engineering, University of Illinois, Urbana-Champaign. For development of dynamic game theory and application to robust control of multiagent systems.

- James F. Blinn, graphics fellow, Microsoft Research, Redmond, Wash. For contributions to the technologies of computer graphics and for expository articles.

- D. Stolee W. E. Everett, deputy undersecretary of defense for science and technology, office of the secretary of defense, Washington, D.C. For authorship of textbooks on computer applications in engineering, contributions to digital signal processing, and service to the profession.

- R. Andy K. Katzen, professor of electrical engineering and computer science, University of California, Berkeley. For contributions to high-performance Internet protocols, networking, and education.

- N. L. Lee, professor of aerospace and astronautics, Massachusetts Institute of Technology, Cambridge. For contributions to software safety.

- Jacob T. Schwartz, mathematics and computer science professor, Courant Institute, New York University, New York City. For contributions to the theory and practice of programming language design, compiler technology, and parallel computation.

- Daniel P. Siewiorek, professor of aerospace engineering and computer science, Massachusetts Institute of Technology, Cambridge. For applications of artificial intelligence and for computer science education.

New Foreign Associate:

- Andrei Von Bechtolsheim, vice president of engineering, Cisco Systems Inc., San Jose, Calif. For contributions to the design of computer workstations and high-performance network switching.

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This is a critical step, as it largely determines whether key subcommittees will have enough funding to provide funding increases for research agencies under their jurisdictions. In an effort to ensure that they do, Rep. Ehlers is circulating a "Dear Colleague" letter that urges appropriators to give special attention to subcommittees that fund basic science programs when making their 302(b) allocations.

Visa Caps Likely to Rise

Under increasing pressure from the private sector to ease difficulties in filling high-tech jobs, Congress is moving forward on legislation to raise the caps on H-1B temporary visas for skilled foreign workers.

Senator Orrin Hatch (R-Utah), chairman of the Senate Judiciary Committee, is leading the charge with the American Competitiveness in the 21st Century Act (S. 2045), approved by his committee in early March. The bill would raise the cap to 195,000 per year for each of the next three years, and would exempt from the cap visas granted to those working in universities or those who have recently received advanced degrees from U.S. educational institutions.

The cap currently stands at 115,000 per year.

"Common sense tells us that we must allow American high-tech companies to fill their labor needs in the U.S., or they will be forced to take these opportunities of growth abroad," says Hatch.

Similar legislation has been introduced in the House by Rep. David Dreier (R-Calif.). The H-1B cap is being readied for press, after considering an amendment by Senator Edward Kennedy (D-Mass.) that would express the "sense of the Senate" on the importance of maintaining strong civilian and defense R&D programs. The Senate voted to raise the cap by $1.6 billion to $2.3 billion in FY 2002.

The House and Senate Appropriations Committees, along with the White House, are expected to reach agreement on the budget resolution and its impact on technology-related programs. The Administration's $2 billion cut in spending was being readied for press, after considering an amendment by Senator Edward Kennedy (D-Mass.) that would express the "sense of the Senate" on the importance of sustaining strong civilian and defense R&D programs. The Senate voted to raise the cap by $1.6 billion to $2.3 billion in FY 2002.

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Federal Funding Agencies

**DOD/Air Force Office of Scientific Research**
801 North Randolph Street
Room 732
Arlington, VA 22203-1977
http://www.afosr.af.mil

**Math and Space Sciences**

Director  Clifford E. Rhodes, Jr.
703-696-7797
clifford.rhoades@afosr.af.mil

Al Program Manager  Alexander Freeman Kilpatrick
703-696-6565
alex.kilpatrick@afosr.af.mil

Software and Systems Program Manager  Alexander Freeman Kilpatrick
703-696-6565
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**DOD/Army Research Office**

ATTN: AMSRL-RO-EM
PO Box 12211
Research Triangle Park, NC 27709-2211
http://www.aro.army.mil

**Mathematical & Computer Sciences Division**

Associate Director  Julian Wu
919-549-4254
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Applied Analysis  John Lavery
919-549-2435
laveryj@aro-ehr1.army.mil

Computational Mathematics  Stephen Davis
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sdavis@aro-ehr1.army.mil

Statistics, Probability, and Stochastic Analysis  Robert Launer
919-549-4309
launer@aro-ehr1.army.mil

Systems & Control  Linda Bushnell
919-549-4319
bushnelll@aro-ehr1.army.mil

Software & Knowledge-Based Systems  David W. Hislop
919-549-4235
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**DOD/Defense Advanced Research Projects Agency**

3701 N. Fairfax Drive
Arlington, VA 22203-1714
http://www.darpa.mil

**Technology Offices**

Director, Information  William Mularie
703-696-7438
wmularie@darpa.mil

Director, Information Systems Office  Shankar Sastry
703-696-2228
ssasstry@darpa.mil

**DOD/Office of Naval Research**

Ballston Center Tower, 800 N. Quincy St.
ONR 311
Arlington, VA 22217-5660
http://www.onr.navy.mil

**Mathematical, Computer, & Information Sciences Division**

Director  Andre van Tilborg
703-696-4312
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Applied Analysis  Wen Masters
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Artificial Intelligence  Andre van Tilborg
703-696-4312
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Command & Control  Paul Quinn
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**Mathematical, Computer, & Information Sciences Division, cont.**

Discrete Mathematics & Operations Research  Donald Wagner
703-696-4313
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Probabilities & Statistics  Wendy Martinez
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Robotics  Teresa McMullen
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Software  Ralph Wachter
703-696-4304
wachter@ltd.nrl.navy.mil

Scientific Visualization  Lawrence Rosenblum
202-767-5333
rosenblum@ait.nrl.navy.mil

**Department of Energy**

Office of Science
SD-30
19901 Germantown Road
Germantown, MD 20874-1290
http://www.sc.doe.gov

Director (Acting)  James S. Decker
202-586-5434
james.decker@science.doe.gov

**Office of Advanced Scientific Computing Research**

Associate Director  Edward Oliver
301-903-7486
ed.oliver@science.doe.gov

Acting Director, Mathematical, Information, & Computational Sciences  Edward Oliver
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ed.oliver@science.doe.gov

**National Institute of Standards & Technology**

Building 225, Room 8264
Gaithersburg, MD 20899-8900
http://www.nist.gov

**Information Technology Laboratory**

Director  William L. Me huron
301-975-2900
william.mehuron@nist.gov

**Office of Science & Technology Policy**

17th Street & Pennsylvania Avenue NW, Room 424
Washington, DC 20502
http://www.whitehouse.gov/WH/EOP/OSTP/OSTP_Home.html

Director; Assistant to the President for Science & Technology  Neal Lane
202-456-7116

Associate Director for Science  Arthur Bienenstock
202-456-6130

Associate Director for Technology  Duncan Moore
202-456-6032

**National Science Foundation**

Directorate for Computer and Information Science and Engineering
4201 Wilson Blvd.
Arlington, VA 22230
http://www.cise.ncf.gov

**Advanced Computational Infrastructure & Research (ACIR)**

Division Director  Richard Hirsch
703-306-1970
rhirsch@nsf.gov

Deputy Division Director  Robert R. Borchers
703-306-1970
borchers@nsf.gov

Page 6
Federal Funding Agencies

**Advanced Computational Infrastructure & Research (ACIR), cont.**

| Partnership for Advanced Computational Infrastructure (PACI) | Stephen Elbert | 703-306-1963 | seibert@nsf.gov |
| Terascale Computing Systems | Stephen Elbert | 703-306-1963 | seibert@nsf.gov |
| Advanced Computational Research | Charles Koelbel | 703-306-1962 | dkoelbel@nsf.gov |
| Large Scientific and Software Data Set Visualization | Charles Koelbel | 703-306-1962 | dkoelbel@nsf.gov |

**Advanced Networking Infrastructure & Research (ANIR)**

| Division Director (Acting) | Aubrey Bush | 703-306-1950 | abush@nsf.gov |
| Deputy Division Director | Aubrey Bush | 703-306-1950 | abush@nsf.gov |
| Advanced Networking Infrastructure | William Deck | 703-306-1949 | wdeck@nsf.gov |
| Networking Research | Karen Sollins | 703-306-1949 | ksollins@nsf.gov |
| Special Projects in Networking | Darlene Fisher | 703-306-1949 | dfisher@nsf.gov |
| Internet Technologies | Anne Richeson | 703-306-1949 | archeson@nsf.gov |

**Computer-Communications Research (CCR)**

| Division Director | Michael Evangelist | 703-306-1910 | mevangel@nsf.gov |
| Deputy Division Director | Kamal Abdali | 703-306-1912 | kabdali@nsf.gov |
| Software Engineering & Languages | Frank Anger | 703-306-1911 | fanger@nsf.gov |
| Computer Systems Architecture | Laxmi Bhuyan | 703-306-1936 | lbhuyan@nsf.gov |
| Signal Processing Systems | John Cozzens | 703-306-1914 | jcozzens@nsf.gov |
| Design Automation | Robert Gratton | 703-306-1936 | rgratton@nsf.gov |
| Operating Systems & Compilers | Mukesh Singhal | 703-306-1918 | msinghal@nsf.gov |
| Theory of Computing | Zechezkel Zalcstein | 703-306-1914 | zzalcstein@nsf.gov |
| Communications | Rodger Ziemer | 703-306-1912 | rziemer@nsf.gov |
| Numeric, Symbolic, and Geometric Computation | William Franklin | 703-306-1912 | wfranklin@nsf.gov |

**Experimental and Integrative Activities (EIA)**

| Acting Division Director | Rick Adron | 703-306-1980 | wadron@nsf.gov |
| Deputy Division Director | Carolyn Wardle | 703-306-1980 | cwardle@nsf.gov |
| Digital Government | Lawrence Brandt | 703-306-1981 | lbrandt@nsf.gov |
| Interactive Graduate Education & Research Training | Dragana Brzakovic | 703-306-1981 | dbrzakovic@nsf.gov |
| Professional Opportunities for Women in Research & Education | Dragana Brzakovic | 703-306-1981 | dbrzakovic@nsf.gov |

**Experimental and Integrative Activities (EIA), cont.**

| Major Research | Dragana Brzakovic |
| Instrumentation | 703-306-1981 | dbrzakovic@nsf.gov |
| Next Generation Software | Frederica Darema | 703-306-1981 | darema@nsf.gov |
| Challenges in CISE | Frederica Darema | 703-306-1981 | darema@nsf.gov |
| CISE Educational Innovation | Harry Hedges | 703-306-1981 | hhedges@nsf.gov |
| Research Experiences for Undergrads | Harry Hedges | 703-306-1981 | hhedges@nsf.gov |
| Combined Research | Harry Hedges | 703-306-1981 | hhedges@nsf.gov |
| Curriculum Development | Harry Hedges | 703-306-1981 | hhedges@nsf.gov |
| Special Projects EIA | Harry Hedges | 703-306-1981 | hhedges@nsf.gov |
| CISE Postdoctoral Research Associates | Anthony Maddox | 703-306-1981 | amaddox@nsf.gov |
| Experimental Partnerships | Anthony Maddox | 703-306-1981 | amaddox@nsf.gov |
| CISE Research Infrastructure | Dragana Brzakovic | 703-306-1981 | dbrzakovic@nsf.gov |
| CISE Minority Institutions Infrastructure | Dragana Brzakovic | 703-306-1981 | dbrzakovic@nsf.gov |
| NSF-CONSCyT Collaborative Research Opportunities | Lawrence Brandt | 703-306-1981 | lbrandt@nsf.gov |
| NSF-CNPRq Collaborative Research Opportunities | Lawrence Brandt | 703-306-1981 | lbrandt@nsf.gov |
| CISE Advanced Distributed Resources for Experiments | Michael Foster | 703-306-1980 | mfoster@nsf.gov |

**Information & Intelligent Systems (IIS)**

| Division Director (On Leave) | Y.T. Chien | 703-306-1930 | ytchien@nsf.gov |
| Division Director | Michael Lesk | 703-306-1930 | mlesk@nsf.gov |
| Deputy Division Director | Gary W. Strong | 703-306-1928 | gstrong@nsf.gov |
| Knowledge & Cognitive Sciences | Ephraim Gillett | 703-306-1926 | egillett@nsf.gov |
| Special Projects | Steven Griffin | 703-306-1930 | sgriffin@nsf.gov |
| Computational & Social Systems | Suzanne Iacono | 703-306-1927 | siacono@nsf.gov |
| Information & Data Management | Maria Zemankova | 703-306-1926 | mzemankov@nsf.gov |
| Human Computer Interaction | Gary W. Strong | 703-306-1928 | gstrong@nsf.gov |
| Robotics & Human Augmentation | Jing Xiao | 703-306-1928 | jxiao@nsf.gov |

**Information Technology Research**

| ITR Program Director | Richard Hildebrandt | 703-306-1930 | rhildebr@nsf.gov |
| CISE Program Officer | Michael Lesk | 703-306-1930 | mlesk@nsf.gov |
Transitions and Awards

C.William Gear has retired as President of NEC Research Institute. Dr. Gear had been a CRA board member since 1989. David L. Walt is the new President of NEC ECI, effective April 1.

John Hennessey has been named President of Stanford University, effective September 1, 2000. Professor Hennessey, who has been the University’s Provost for the past two years, formerly served as both dean of the school of engineering and chair of the computer science department at Stanford.

Nancy Leveson, Professor of Aeronautical & Astronautical Engineering, Department of Aeronautics and Astronautics, Massachusetts Institute of Technology, is the recipient of the ACM’s A. W. M. Nix Newell Award for her pioneering work in establishing the foundation of software safety. Dr. Leveson is a member of the CRA board of directors.

David Patterson, Professor of Computer Science, University of California, Berkeley, was awarded the IEEE James H. Mulligan, Jr., Education Medal for “inspirational teaching through the development of creative curricula and teaching methodology, for important textbooks, and for effective integration of education and research missions.” Dr. Patterson was also awarded the IEEE John von Neumann Medal (shared with John Hennessy) “for creating a revolution in computer architecture through their exploration, popularization, and commercialization of architectural innovations.”

CRA board member, Dan Reed, Professor and Chair of Computer Science at the University of Illinois, Urbana-Champaign, has been appointed Director of the National Computational Science Alliance. He replaces Larry Smarr, who left the University of California, San Diego, for the position of executive director. John Toole, former Deputy Director of NCSA, has been appointed Director of Supercomputing Applications, both of which he has headed since 1985.

Dr. Patterson is a member of CRA’s board of directors.

CRA-W Graduate Student Information

Originally published in 1993 and updated in 2000, the CRA-W Graduate Student Information Guide provides information of value to anyone considering graduate school. The earlier in one’s academic career that this publication is read, the better, as it provides advice and groundwork information that can be useful right at the beginning of undergraduate studies.

CRA-W offers a wide range of programs and publications designed to bring women into the world of CSE. Other programs include:

- Distributed Mentor Project, which matches female undergraduates with female professors for a summer of research and mentoring.
- Women’s Database Project, which offers a database of fellowships and scholarships available nationwide.
- Experience for Women in Computer Science, which offers an excellent guide to anyone considering advanced study.
- Distributed Mentor Project, which matches female undergraduates with female professors for a summer of research and mentoring.
- Women’s Database Project, which offers a database of fellowships and scholarships available nationwide.
- Experience for Women in Computer Science, which offers an excellent guide to anyone considering advanced study.
- Distributed Mentor Project, which matches female undergraduates with female professors for a summer of research and mentoring.
- Women’s Database Project, which offers a database of fellowships and scholarships available nationwide.
- Experience for Women in Computer Science, which offers an excellent guide to anyone considering advanced study.
Telcordia from Page 1

Telcordia computer science research to start-up company formed around his co-invention of a digital time-stamping technique, and then back to Telcordia. While Stornetta's case is unusual by traditional standards, it may prove to be a model for the future. We are often faced with an embarrassment of technology riches, not all of which can find a logical home in the current business plans. The value of some of these nuggets may be best realized by following non-traditional paths. The IC SRL emphasizes rock-solid ties with the external scientific community. Our researchers are expected to be active in professional activities, including publishing and presenting conference papers. We strongly support a variety of research institutes that foster their energies on computer and mathematical science problems of importance to us. In 1998, we were one of four NSF research institutions to join the Center for Discrete Mathematics and Theoretical Computer Science, DIMACS (which is located at nearby Rutgers University).

We also have long-standing relationships with the Software Engineering Research Center (SERC) housed at Purdue University, reflecting Telcordia's emphasis on software quality and productivity, and the Center for Advanced Computing and Communications (CA C), located at Duke and North Carolina State University, because of our interest in high-performance and highly reliable distributed systems. Telcordia has been a member of the Participating Corporations Program of the Institute for Mathematics and Its Applications (IMA) at the University of Minnesota since its inception in 1986. This year, when the National Institute of Statistical Sciences (NISS) in North Carolina established a Program centered on cross-disciplinary research involving statistics, we became one of its charter members. We also maintain close ties with university colleagues and departments in virtually every section of the country. A list of these connections help us to multiply the impact of our own research investment.

Internally, the CSRL has organized into the Software Technology Research Department, headed by Mark Segal; the Information Analysis and Services Research Department, headed by Sid Dalal; the Services Research Center, a joint venture of Telcordia and the Mathematical Sciences Research Center, which I head. Within this structure we have about 15 focused research groups whose primary goal is to develop serious research work.

A scan of some of our current research projects will, I hope, give a sense of the research portfolio and the types of problems we work on. I Mark Segal, in collaboration with researchers from our lab, has developed a comprehensive technology to detect and respond to computer system intrusions. Their approach matches patterns of system calls and network packets against known characteristics of attacks.

Dr. Kettenring is Executive Director of the Mathematical Sciences Research Center at Telcordia Technologies (jron@research.telcordia.com).

Conclusion

CDC is an organization comprised of individuals committed to improving the environment for minority researchers in CSE nationwide, and increasing the number of minorities involved in academic research. CDC website, http://www.npic.edu/utrecht/CDC, provides information on CDC programs and an opportunity to sign up for announcements. The website was developed by Charles Isbell, AT&T (isbell@research.att.com) and Eric Brittain, Massachusetts Institute of Technology. (ericb@graphics.cs.mit.edu).

CDC also encourages minority students and faculty to lead a project for CDC. CDC aggressively seeks funding for selected projects. Persons interested in volunteering should contact Richard Taylor at IBM's Santa Teresa Laboratory. Richard Taylor (taylor@ece.nwu.edu)
**University of Alberta**
Department of Computing Science

The University of Alberta, in Edmonton, the capital city of Alberta, is one of Canada’s leading research universities. With over 28,000 students, the department leads broadly-based multidisciplinary research in the arts, humanities, social sciences, natural sciences, and engineering. The department has a first-rate experimental computer science research program and has in place an operating systems, networking, graphics, software engineering, and artificial intelligence research group. The department offers a competitive salary and fringe benefits.

**Florida State University**
Department of Computer Science

Florida State University is an Equal Opportunity/Affirmative Action employer that encourages applications from minorities and women. FSU is located in the Florida capital city of Tallahassee, 20 miles from the seacoast region of New Hampshire—was founded in 1854 and is a public university with approximately 16,000 students. The university has one of the largest computer science departments in the country, with over 600 full-time faculty and approximately 2,000 graduate students. The department offers a wide range of undergraduate and graduate programs, including a Ph.D. program in Computer Science. The department has a strong commitment to excellence in research and teaching and has been recognized for its strong research program and has in place an operating systems, networking, graphics, software engineering, and artificial intelligence research group.

**Bucknell University**

Department of Computer Science

Bucknell University is a private liberal arts college located in Lewisburg, Pennsylvania. The university has a strong commitment to undergraduate research and offers a wide range of undergraduate and graduate programs in Computer Science. The department offers a Ph.D. program in Computer Science with an emphasis on software engineering, operating systems, and artificial intelligence. The department has a strong commitment to excellence in research and teaching and has been recognized for its strong research program and has in place an operating systems, networking, graphics, software engineering, and artificial intelligence research group.

**Compustics International**

CF-Freesies

Free weekly list of computing-related news, grants calls, research jobs, etc.
Brownell University

University of Maryland College Park seeks experienced faculty to teach on an Interdisciplinary Contract Beginning August 2000 in Asia for baccalaureate programs for personnel on U.S. military bases. We have position openings for the following academic areas:

Computers and Information Systems
Master’s degrees, recent college teaching experience and U.S. citizenship required. Ph.D. preferred. Benefits include transportation, basic privileges, transportation for dependents, health insurance and TRICARE. Living conditions, frequent relocation and the cost of schooling make these positions difficult for faculty with children. For further information visit http://www.cs.umd.edu/.

Applications from qualified women and men, the most favorable in Canada to the home buyer.

University of Minnesota
Department of Computer Science and Engineering
Faculty Positions
The Department of Computer Science and Engineering at the University of Minnesota is a well-established one with a significant history of excellence. The Department currently has 24 full-time faculty members and over 300 graduate students. The department is developing highly scalable techniques to diagnose and monitoring of a new generation of nano-scale physical systems and processes. To apply, send a cover letter describing your interest in the position, a curriculum vitae and the names of three references to Professor Jack Stankovic, Chair, Faculty Positions, at 321 HFH, University of Minnesota, 424 Church Street SE, Minneapolis, MN 55455 or search@cs.umn.edu, Telephone: (612) 626-0632.

University of Mississippi
Department of Computer and Information Science
Faculty Positions
The Department of Computer and Information Science invites applications for an Instructor position. Applicants should have a Ph.D. in an appropriate field and a demonstrated ability to teach undergraduate students. The Department offers B.S., B.A., M.S., and Ph.D. degrees and has a strong interest in the enhancement of laboratories and innovative educational initiatives. The position is located in the historic town of Oxford in the lush woodlands of north Mississippi, an hour drive from Memphis. Oxford has a wonderful small-town atmosphere with affordable housing and excellent schools. Review of applications will begin immediately and will continue until the position is filled. The application package should include a cover letter, curriculum vitae, statement of previous R&D and administrative experience, names of five references and other additional supporting information. A on-line application is available at the following address: www.olemiss.edu/appt/lut/.

University of Oregon
Computer and Information Science
Faculty Positions
The Department of Computer and Information Science in the College of Information Technology is an AAU research university located in Eugene, a city with a great deal of small-town charm but a vibrant cultural and professional atmosphere. The University of Oregon is one of the most favorable in Canada to the home buyer.

Applications will be received through July 1, 2000. Send curriculum vitae and the names of at least four references to Faculty Search Committee, Computer and Information Science, University of Oregon, Eugene, OR 97403-1202; faculty@cs.uoregon.edu. Please specify which position you are applying for; A applications will be accepted until April 20, 2000 or until the position is filled.

Xerox Palo Alto Research Center
Research Professional Opportunities
The Computation and Information Technology Laboratory at the Palo Alto Research Center (PARC) is recruiting. We are looking for people to join us in a team effort to develop algorithms and software systems for Smart Matter and distributed sensing. A candidate should have knowledge in at least one of the following: computer vision, signal processing, statistical data analysis, signal processing and classification, distributed sensor fusion, image analysis, machine learning, and pattern recognition. Laboratory experience would be a plus. Applications should be submitted as soon as possible to PARC, research@parc.xerox.com.

Xerox Palo Alto Research Center
Professional Opportunities
The Computation and Information Technology Laboratory at the Palo Alto Research Center (PARC) is recruiting. Applications from qualified women and men, the most favorable in Canada to the home buyer.

University of Arizona
College of Information Technology
Qualifications: Ph.D. in an appropriate field, minimum of ten years teaching experience at the university level, and experience in academic administration, including supervisory roles.

Applications will be received through January 15, 2000. Send curriculum vitae and the names of at least four references to Professor Jack Stankovic, Chair, Faculty Positions, at 321 HFH, University of Minnesota, 424 Church Street SE, Minneapolis, MN 55455 or search@cs.umn.edu, Telephone: (612) 626-0632.

University of Arizona
College of Information Technology
Qualifications: Ph.D. in an appropriate field, minimum of ten years teaching experience at the university level, and experience in academic administration, including supervisory roles.

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University of Arizona
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Qualifications: Ph.D. in an appropriate field, minimum of ten years teaching experience at the university level, and experience in academic administration, including supervisory roles.

Applications will be received through January 15, 2000. Send curriculum vitae and the names of at least four references to Professor Jack Stankovic, Chair, Faculty Positions, at 321 HFH, University of Minnesota, 424 Church Street SE, Minneapolis, MN 55455 or search@cs.umn.edu, Telephone: (612) 626-0632.
Preliminary Program — CRA Conference at Snowbird 2000

Sunday, July 9
CRA Board of Directors Meeting 8:00AM-7:00PM
Registration 2:00PM-7:30PM
Workshop for New Department Chairs 3:00PM-5:00PM
Chairs: Kathleen McKeown, Columbia University
Stuart Zweben, Ohio State University
Welcome Reception 6:00PM-7:30PM
Dinner 7:30PM-9:30PM
Speaker: William A. Wulf, President, National Academy of Engineering; AT&T Professor, University of Virginia
Some Challenges for Computer Science as it Enters the 21st Century

Monday, July 10
Breakfast Buffet 7:00AM-8:30AM
Registration 7:30AM-6:00PM
Welcome 8:30AM-9:00AM
Speakers: Frances Allen, Industrial Snowbird Chair, IBM T.J. Watson Research Center
John Stankovic, Academic Snowbird Chair, University of Virginia

JOINT ACADEMIC/INDUSTRIAL PLENARY SESSION I 8:40AM-10:10AM
What Are the Important Research Areas for the New Millennium?
Chair: Frances Allen, IBM T.J. Watson Research Center
Speaker: Ambuj Goyal, IBM T.J. Watson Research Center
Susan Graham, University of California, Berkeley
William Wulf, National Academy of Engineering and University of Virginia
Break 10:10AM-10:30AM
Workshop I (parallel sessions) 10:30AM-NOON
Using Spin-offs and Venture Capital to Market New Ideas
Chair: Peter Hart, RICOh Silicon Valley
Speakers: Steve Soisalo, Lucent Technologies
John Wexsion, Xerox Corp.

Reshapng Doctoral Education
Chair: Jeffrey J. Vitter, Duke University
Panelists: James Foley, Yamacraw Mission and Georgia Institute of Technology
Clinton Kelly, Science Applications International Corp.
Edward Lazowska, University of Washington
Barbara Ryder, Rutgers University
William Wulf, National Academy of Engineering and University of Virginia
CSB: Research for the New Millennium
Chair: David Clark, Massachusetts Institute of Technology and Chair, Computer Science & Telecommunications Board
Speakers: Merily Blumenthal, CSB, National Research Council
Department Management: Teaching, Research, and Management Issues at Undergraduate Institutions
Chair: Marion Harmon, Florida A&M University
Panelists: Arthur Jones, Morehouse College
Sandra J. Reeves, Cumberland College
Software Engineering Licensing and Certification
Chair: David Notkin, University of Washington
Luncheon NOON-1:30PM

JOINT ACADEMIC/INDUSTRIAL PLENARY SESSION II 1:30PM-3:00PM
Impact of the Economic Development Imperative on Universities
Chair: James Foley, Yamacraw Mission and Georgia Institute of Technology
Speakers: Rich Adron, National Science Foundation
Randi Katz, University of California, Berkeley
Steven Lazerus, ARCh Venture Partners
Break 3:00PM-3:30PM
Workshop II (parallel sessions) 3:30PM-5:00PM
Joint Academic/Industrial Workshop Models for University Venture Capital/Incubation Initiatives
Chair: Azer Bestavros, Boston University
Panelists: Wm. Weiss, University of Virginia
IT, Informatics, and Computer Science: Experience With New and Existing Programs
Chair: Dennis Gannon, Indiana University
Panelists: James Michael Dunn, Indiana University
Policy Forum — Issues in Information Technology Policy Discussion Leaders:
Daniel Reed, University of Illinois, Urbana-Champaign; Chair, CRA Government Affairs Committee
Eugene Spafford, Purdue University; Chair, ACM U.S. Public Policy Committee
Lisa Thompson, Director of Government Affairs, CRA
CRA Academic Profiles Sun Survey
Chair: Stephen Seidman, Colorado State University

Government-Sponsored Initiatives on Women and Minorities
Chair: Doris Caver, Louisiana State University
Speakers: James Cascia, National Institutes of Health
Oscar Garcia, Wright State University
Caroline Wardle, National Science Foundation
William Wulf, National Academy of Engineering and University of Virginia

Break of a Feather/Open Networking 5:00PM-6:00PM
Dinner and State of the CRA Address 6:30PM-9:30PM
Speaker: Edward Lazowska, University of Washington
William Aspray, Computing Research Association
The CRA Distinguished Service and A. Nico Habermann Awards will be presented after dinner.

Tuesday, July 11
Breakfast Buffet 7:00AM-8:30AM
PLENARY SESSION III 8:30AM-10:00AM
Educational Challenges for the New Millennium
Chair: James Kurose, University of Massachusetts, Amherst
Speakers: Gordon Davies, Open University, UK
Peter Denning, George Mason University
Dennis Gannon, Indiana University
Ellis Horowitz, University of Southern California
Break 10:00AM-10:30AM
Workshop III (parallel sessions) 10:30AM-NOON
Industry Workshop—Managing Industrial Research Labs
Chair: Richard Waters, Mitsubishi Electric Research
Perspectives on CSAB Accreditation Activities and Integration of CSAC into ABET
Chair: Kenneth E. Martin, Computing Sciences Accreditation Board
Panelists: Lawrence Jones, Carnegie Mellon University
Stuart Zweben, Ohio State University
Where Is the Information Technology Profession Headed?
Chair: Peter Denning, George Mason University
Panelists: Franck Allen, IBM T.J. Watson Research Center
David Arnold, University of East Anglia
Peter Freeman, Georgia Institute of Technology
Best Practices and Future Research: Recruitment and Retention of Women and Minorities in CS&E
Chair: Mary Lou Soffa, University of Pittsburgh
Panelists: Saine Alexander, University of Wisconsin
Allan Fisher, Carnegie Mellon University
Caroline Wardle, National Science Foundation
Margaret Wright, Lucent Technologies
New Government-Sponsored Research Initiatives
Chair: TBA
Speakers: Shariat Sazavi, DARPA
George Strawh, National Science Foundation
Andrea van Tilburg, Office of Naval Research
Luncheon NOON - 1:30PM
[CRA Board Interaction with Conference Participants]
Workshop IV (parallel sessions) 1:30PM-3:30PM
Industry-Uncer Collaboration
Chair: Larry Snyder, University of Washington
The Relationship Between Computer and Computational Science
Chair: Sidney Karin, University of California, San Diego
Robert Schach, University of Colorado at Boulder
Panelists: Susan Graham, University of California, Berkeley
Best Practices: Recruiting and Retaining Faculty, Graduate Students, and Researchers
Chair: John Stankovic, University of Virginia
Panelists: Tomasz Mielinski, Rutgers University
Tomaz Lapov-Peraz, Massachusetts Institute of Technology
Eric Manning, University of Victoria
Systems Administration Courses and the CS Curriculum
Chair: David Porter, University of Wisconsin and SAGE
Panelists: John Stankovic, University of Virginia
Panelists: Carl Mielinski, Rutgers University
Tomaz Lapov-Peraz, Massachusetts Institute of Technology
Eric Manning, University of Victoria
Distance Education/Learning
Chair: Ellis Horowitz, University of Southern California
Panelists: Rick Adron, University of Massachusetts and National Science Foundation
Dallas Read, The Open University, UK
Anoop Gupta, Microsoft Corp.
Daniel Read, University of Illinois, Urbana-Champaign
Workshop for Deans 1:30PM-9:00PM
Chair: Peter Freeman, Georgia Institute of Technology

To register, see http://www.cra.org