2010 ANNUAL REPORT

Message from the Board Chair

I am pleased to report that CRA had a very productive year in 2009-10. During a period of significant uncertainty for the computing field, given the challenges posed by the economic downturn on institutions and individuals, CRA provided leadership on a range of issues and initiatives, detailed below. Despite these challenges, the number of people actively engaged in CRA's activities continues to grow, and its financial position remains stable and sound.

The Computing Community Consortium (CCC), a standing committee of CRA funded by the National Science Foundation (NSF), continued to provide thought leadership to the computing research community this year, pursuing visioning activities for the purpose of identifying key research ideas that are likely to shape the future of several subfields of computer science. The CCC interfaced with Federal agencies on the outputs of some of these visioning activities, notably in the areas of robotics and health information technology. In May, the CCC was asked by the White House Office of Science and Technology Policy (OSTP) to draft a series of white papers on data analytics that would describe how data mining, machine learning, predictive modeling, and related computational approaches are critically important in national priority areas such as healthcare, energy, and transportation. The CCC had a successful reverse site visit with NSF in February, and hired a full-time director in April.

With funding from the NSF, the *Computing Innovation Fellows (CIFellows) Project* provided postdoctoral positions to 60 recent Ph.D.s in computer science and allied fields during the 2009-10 academic year. The project sought to forestall a permanent loss of research talent likely to occur as a consequence of the financial crisis, while enabling the new Ph.D.s to develop experience and become more effective researchers and/or teachers over the long term. Of the 60 CIFellows, CRA expects 42 to continue for a second year in the program; the vast majority of the others have been offered permanent opportunities in academia (including tenure-track faculty positions) and industry. Given the continued economic downturn and poor hiring trends, CRA proposed and received additional support from the NSF in May to fully support the initial cohort of CIFellows for a second year, and to run a second CIFellows Project for the 2010-11 academic year. This additional funding will support another 47 CIFellows, plus a handful of those from the first year who are continuing for a final year.

In 2009-10, *CRA's Women's Committee (CRA-W)* coordinated a range of popular mentoring programs and workshops designed to increase the representation and opportunities for women in computing research. CRA-W and the Coalition to Diversify Computing (CDC) have partnered

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to expand several programs to include underrepresented minorities as well as women. Active CRA-W projects include: the *Distributed Research Experience for Undergraduates (DREU) (US and Canada);* the *Collaborative Research Experiences for Undergraduates (CREU)*; and *Discipline-Specific Workshops* designed to increase the participation of members of underrepresented groups within a specific research area. In addition, CRA-W's *Grad Cohort Program* brought together 234 women graduate students in their first, second, or third year of graduate school for a two-day workshop on graduate school survival, career planning, and networking.

CRA-W organized a *Career Mentoring Workshop* on teaching in March 2009 that attracted 26 participants and five speakers; and a *Cohort of Advanced Professionals Project (CAPP)* workshop designed to increase the percentage of CS&E women faculty members and researchers who reach the top of their career tracks. In its *Distinguished Lecture Series*, faculty and lab researchers visited campuses to encourage women and minorities to attend graduate school. CRA-W also revamped its website, published regular "Expanding the Pipeline" articles in *Computing Research News;* and formed a team to develop a more formalized process to better manage its various evaluation efforts.

CRA conducted the 38th annual *Taulbee Survey* of Ph.D.-granting CS&CE departments. This year's report included information about teaching loads, space, support staff, graduate student recruiting methods, and sources of research funding. These questions are added to the survey every third year because the data in these areas change slowly.

In the research policy arena, CRA's *Government Affairs Committee (GAC)* continued to be the "organization of record" for computing research funding, sought out by policymakers and press alike for input on issues that affect the community. CRA co-sponsored or hosted three congressional briefings on computing topics, and endorsed or commented on pending pieces of legislation on two cyber security bills and the America COMPETES Reauthorization. GAC's chair testified before the House Armed Services Committee in February on Cyber Security research issues.

The committee also weighed in with policymakers on a variety of topics in less formal ways, including meetings with OSTP, House and Senate staff, and a letter to the National Governors Association to discuss HPC, research funding, science core curriculum issues, and issues with the forthcoming PITAC review of the Networking and Information Technology Research and Development program. CRA joined a number of allied groups to advance common issues, including the Congressional Robotics Caucus by participating in National Robotics Week, the Alliance for High Performance Digital Manufacturing to advance their "HPC in the Middle" effort, and AAAS by preparing a book chapter on "Computing Research in the FY11 Budget Request."

The Government Affairs Committee continued to work, both on its own and as part of the broader science advocacy community in Washington, to make the case for federal support of fundamental research. CRA continued its membership in a number of key coalitions, including the Task Force on American Innovation, the Coalition for National Science Funding, and the Coalition for National Security Research, which are all working to ensure that federal support for research remains a priority in a time of increasingly tight federal budgets.

In the area of *Communications,* CRA launched a redesign of its website in February to incorporate better information architecture, design and ease of use. Improvements included a more welcoming home page and the ability to locate information more efficiently. The new site sits atop a Content Management System which enables easier management by CRA staff. The

Government Affairs Committee's *Computing Research Policy Blog* where current activities in the policy arena are posted continued to be a popular CRA site. Those who joined CRA's *Computing Research Advocacy Network* received timely information about key advocacy opportunities—providing summary and background information, recommended actions, talking points, and contact information—to enable them to speak out on behalf of computing research. The format and content of the *Computing Community Consortium's* website was substantially revamped and its CCC Blog continued to provide news and information for and about the computing research community. Under contract through the CCC, an external public relations firm began developing brochures about computing research in the context of national priorities, to include healthcare, energy, and sustainability.

CRA provided current items of interest to chairs of U.S. and Canadian Ph.D.-granting CS&CE departments and the larger computing research community through its newsletter, *Computing Research News*, and via regular e-mail communications to department chairs and lab directors. Both Board members and staff regularly responded to requests from journalists, researchers, educators, and others for statistical information on CS and CE enrollments gleaned from CRA's Taulbee Survey. CRA-W continued to produce its biannual newsletter for its alumni.

During 2009-10, *CRA's Education Committee (CRA-E)* produced a white paper, "Creating Environments for Computational Researcher Education," which was released at the CRA Conference at Snowbird in July 2010. The paper offers guidance for institutions to create an undergraduate environment that supports the acquisition and internalization of the computationally oriented researcher mindset. Two sub-goals were identified: *first*, to identify the issues facing faculty charged with educating computationally oriented researchers in the first part of the 21st century, and *second*, to make recommendations that address those issues that are both relevant and implementable within the current institutional context. CRA-E hosted a discussion session at CRA's Conference at Snowbird to obtain input on future activities.

The *Coalition to Diversify Computing (CDC)* is a joint organization of the ACM, CRA and IEEE-CS. The leadership of CDC and CRA-W continued to streamline and merge their mentoring projects during the year. *Collaborative Research Experiences for Undergraduates (CREU)* received 33 proposals; 21 were funded. About 75 students were placed in the *Distributed Research Experiences for Undergraduates* (DREU) program, which matches promising undergraduates with a faculty mentor for a summer research experience at the faculty member's institution. More mentors are needed next year to place a larger number of students. A highlight for CDC was the *Computer-Human Interaction Mentoring* (CHIMe) workshop in Atlanta, GA, in April. This workshop was designed to bring together a unique, talented group of underrepresented students doing research in the human-computer interaction field. Out of a total of 69 applicants, 40 students were funded to attend—all but one being Ph.D. students representing 21 institutions in the United States and Puerto Rico.

CRA hosted the annual *Computing Leadership Summit* for presidents, executive directors, and other senior leadership of CRA, its five affiliate societies (AAAI, ACM, CACS/AIC, IEEE-Computer Society, SIAM, and USENIX), and NRC's Computer Science and Telecommunications Board. The sixteenth Summit was held February 22, 2010, in Washington, DC.

Two service awards were presented at CRA's Conference at Snowbird in July 2010. **Moshe Y. Vardi**, the Karen Ostrum George Professor in Computational Engineering and Director of the Ken Kennedy Institute for Information Technology at Rice University, received CRA's *Distinguished Service Award* for leading two important efforts: producing the ACM report, *Globalization and Offshoring of Software*, and redefining the *Communications of the ACM* with

the goal of engaging the computing research community to create a compelling magazine for computing. The *A. Nico Habermann Award* was presented to **Anne Condon**, Professor of Computer Science and Associate Dean for Faculty Affairs and Strategic Initiatives at the University of British Columbia, for her long-standing and influential service toward increasing the participation of women in computer science research.

The Board of Directors welcomed new members in 2009-10: Sarita Adve (University of Illinois, Urbana-Champaign); Carla Brodley (AAAI Rep); Alva Couch (USENIX Rep); Kathleen Fisher (AT&T Labs); H.V. Jagadish (University of Michigan); Margaret Martonosi (Princeton University); Tamir Özsu (Canadian Association of Computer Science–CACS/AIC Rep); and Jonathan Turner (Washington University in St. Louis). Members re-elected for another three-year term included Annie Anton (North Carolina State University); William Aspray (University of Texas at Austin); Andrew Chien (Intel Corp.); and Eric Grimson (Massachusetts Institute of Technology).

Board members whose terms ended in 2009-10 include: George Cybenko (IEEE-CS Rep); Jeff Hollingsworth (University of Maryland); Peter Lee (DARPA); and David Tennenhouse (New Venture Partners). We thank them all for their dedicated service to CRA and to the computing research community. As always, we are grateful to the many people who contribute to CRA by serving as chairs and members of its various committees and who participate in its activities in other ways.

The success of any organization is defined by the enthusiasm and active participation of its members and volunteers. By that standard, CRA is a vibrant and thriving organization, committed to advancing aspects of computing research. This report is a vignette of the diverse activities of CRA and its members. On behalf of the CRA Board, thank you for all you do to make CRA the success that it is today.

W. Eric Grimson
Board Chair

Attachments:

2009-10 Highlights by Mission Area
- Research Policy
- Information Activities
- Human Resources
- Community Building

CRA Members
CRA Board of Directors and Staff
CRA Financial Statement 2009-10

HIGHLIGHTS 2009-10 BY MISSION AREA

Research Policy

During 2009-10, the Government Affairs Committee (GAC) weighed in with policymakers on a variety of topics by commenting on pending legislation, testifying before congressional committees, and working with allied groups to advance CRA's research policy initiatives.

In February, the GAC Chair testified on behalf of CRA before the House Armed Services Committee to glean "private sector perspectives on Department of Defense information technology and cybersecurity activities." The testimony addressed the importance of moving beyond reacting to "yesterday's attacks" and, instead, building systems whose trustworthiness derives from first principles–which will require a "science base" for trustworthiness.

The GAC joined with USACM to respond to a Manager's Amendment for the controversial comprehensive cybersecurity legislation introduced by Sens. John Rockefeller (D-WV) and Olympia Snowe (R-ME). CRA and USACM also jointly raised concerns about HR 4061, the Cyber Security Enhancement Act the two societies originally endorsed that had been amended during final passage. In May CRA endorsed the America COMPETES Act, indicating its support for the inclusion of the NITRD Act of 2010.

CRA joined a collection of computing organizations—including ACM, CSTA, Google, Intel, Microsoft and NCWIT—in providing comments to the National Governors Association, encouraging them to include computer science as a fourth math course in the "Designing High School Mathematics Courses" model that is part of the Common Core State Standards Initiative (CCSSI).

The committee supported efforts by the Alliance for High Performance Digital Manufacturing to spur the adoption of HPC resources by small to mid-sized U.S. businesses. This was done on the assumption that federal programs in the space area will want to partner with universities that have expertise in space research, many of whom are CRA members. CRA has joined with the Alliance in a series of meetings with House and Senate staff in a successful attempt to get language in the COMPETES Reauthorization that would put together an interagency group to develop a plan for moving forward in the space arena.

The President's Council of Advisors on Science and Technology (PCAST) has been empowered by Executive Order to serve as the congressionally mandated President's Information Technology Advisory Committee (PITAC). Part of that responsibility is to review the 13-agency Networking and Information Technology Research and Development (NITRD) program. A PITAC subcommittee was formed chaired by the GAC's Co-Chair, Ed Lazowska, and CRA-Education Committee member, David E. Shaw. In addition, White House Office of Science and Technology Policy (OSTP) staff have reached out to the GAC staff for input on what CRA would like to see included in the NITRD review. The goal is to produce a report for the PCAST to approve and deliver to the President and Congress by September.

The GAC continues its affiliation with the Congressional Robotics Caucus, which now has 37 congressional members. In addition to publicizing the Robotics Roadmap generated by the CCC-funded robotics effort, the caucus has also had legislative success in creating National Robotics Week, held during the second week of April. CRA also participated in the annual

Capitol Hill Science Exposition for congressional members and staff organized by the Coalition for National Science Funding.

The Government Affairs Committee continued to work both on its own and as part of the broader science advocacy community in Washington to make the case for federal support of fundamental research. CRA continued its membership in a number of key coalitions, including the Task Force on American Innovation, the Coalition for National Science Funding, and the Coalition for National Security Research, which are all working to ensure that federal support for research remains a priority in a time of increasingly tight federal budgets.

Information Activities

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Human Resources

With its popular series of workshops and mentoring programs, the **Committee on the Status of Women in Computing Research (CRA-W)** continued to make strides to achieve its goal of increasing the representation of and opportunities for women in computing research. During 2009-10, as a major goal of its Broadening Participation in Computing grant from NSF, CRA-W and the Coalition to Diversify Computing (CDC) coordinated efforts on several projects.

CRA-W Workshops

Discipline-Specific Workshops: During 2009-10, CRA-W and CDC collaborated to provide discipline-specific mentoring workshops in various subfields of computing. Among the topics covered were "Careers in High Performance Systems (CHiPS), "Computer Human Interaction," and "Women in Theory." Funded by a grant from NSF, the goal is to increase the participation of members of underrepresented groups within a specific research area by providing career mentoring advice and discipline-specific overviews of past accomplishments and future research directions. Of more than 525 participants in the past three years, 71 were underrepresented minorities.

Graduate Cohort Workshop: This popular program brings together women graduate students in their first, second, or third year of graduate school for a two-day workshop on graduate school survival, career planning, and networking. The speakers and panelists are graduate students and senior women in academia and industry. Of 422 applications received, 259 were invited and 248 attended this year. The program is funded with generous support from Google, Microsoft, and a private foundation. The initial results of a comprehensive evaluation of the program currently under way have been overwhelmingly positive.

Cohort of Advanced Professionals Project (formerly the Cohort of Associate Professors Project): Fifteen attendees from research labs, 12 from research universities, and 7 from teaching institutions attended the latest CAPP workshop in June. The goal of CAPP is to increase the percentage of Computer Science and Engineering women faculty members and researchers who reach the top of their respective career tracks—faculty members by being promoted to full professor, and researchers in industrial or governmental labs by being promoted to the top of their institution's technical ladder or by entering research management. In addition, the workshop aims to build a cohort of senior women in academia and industry that will provide them with an information network and mutual support. CAPP is funded through an NSF grant and donations from IBM, Microsoft, and a private foundation.

Distinguished Lecture Series: Funded by a grant from the NSF, this series sends faculty and labs researchers to campuses to encourage women and minorities to attend graduate school. Eight visits were made In 2009-10, each including a technical talk as well as a variety of "recruiting" events—lunches with underrepresented undergraduates, panel discussions about graduate school, meetings with faculty interested in recruiting/retention, and meetings with female and minority graduate students. The program focuses on arranging events at institutions that do not have a large number of research, women, or minority faculty, and has an increasing emphasis on Historically Black Colleges and Universities (HBCUs) and Minority Serving Institutions (MSIs).

CRA-W Mentoring Programs

Distributed Research Experience for Undergraduates (DREU) (US and Canada): DREU pairs each accepted undergraduate student with a research faculty member to pursue an in-depth summer research project at the faculty member's institution. Since 2008, CRA-W and CDC have partnered to expand this program to include underrepresented minorities as well as women. This program is funded by a grant from the NSF. In 2010, DREU received a record number of applications (478) and 67 students were matched with 43 mentors. As in 2009, the students and mentors were much more diverse than in previous years. Of the 55 selected female students, 12 were URMs (8 African American, 4 Hispanic, 0 Native American), as were all 12 of the males (7 African American, 5 Hispanic, 0 Native American).

Collaborative Research Experiences for Undergraduates (CREU)
This project provides research mentoring for small teams of students at their home institutions during the academic year. Teams are composed of students from underrepresented groups in computing, and the selection committee is composed of both CRA-W and CDC members. The 2009-10 cohort was quite active. For example, one student had a demo paper accepted for SIGMOD 2010; another group had a poster presentation at MidVVIC 2009; yet another group had a Work in Progress paper accepted at CHI 2010. This same group also submitted a paper to the ACM Foundations of Digital Games Conference; and another group made the final four in the ImagineCup. The Grace Hopper Conference 2010 was designated the official meeting place of the 2009-10 cohort where most projects will be represented in the student poster competition.

During 2009-10, CRA-W also organized three parallel tracks of three sessions each for undergraduates, graduate students and early career workshops at the Grace Hopper Conference; continued production of its biannual alumni newsletter; published five "Expanding the Pipeline" articles in *Computing Research News*; and continued to develop a more formalized process to manage its various evaluation efforts, with an eye to providing some cross-program evaluation to provide a source of some interesting studies.

Coalition to Diversify Computing (CDC)
The CDC is a joint organization of the ACM, CRA and IEEE-CS. Working closely with CRA-W on several projects, the CDC funded 21 of the 33 proposals received this year for its Collaborative Research Experiences for Undergraduates (CREU). In the Distributed Research Experiences for Undergraduates (DREU) program, which matches promising undergraduates with a faculty mentor for a summer's research experience at the faculty member's home institution, about 75 students were placed. The Discipline-Specific Workshop (CHIMe) funded five workshops. One of them, the Computer-Human Interaction Mentoring workshop in April, was designed to bring together a unique, talented group of underrepresented students doing research in the human-computer interaction field. Out of a total of 69 applicants, 40 students were funded to attend—all but one were Ph.D. students representing 21 institutions in the United States and Puerto Rico.

In its research project, "Addressing the Shrinking Pipeline," the CDC considered the main issues that affect the attraction and retention of African American women in the computing sciences. The project leads have conducted 15 interviews with African American women who have earned PhDs in computer science or engineering. The pilot project is nearly completed—only the transcription and dissemination of results remain. After analysis of the interview data, a resource guide/handbook will be developed based on the oral histories relayed by interview participants. This guide will be distributed through the CDC as a resource for both students and professionals alike. Representatives from the CDC/CRA-W BPC Alliance participated in the NSF-sponsored summit on Broader Impacts for Research and Discovery held on June 21-23, 2010.

Computing Innovation Fellows Project
Funded by the National Science Foundation in May 2009, the goal of this project—run by CRA's Computing Community Consortium (CCC)—was to enable recent Ph.D.s in computer science and allied fields to obtain one- to two-year postdoctoral positions at academic institutions and industrial organizations with basic research and education programs. The initiative sought: a) to forestall a permanent loss of research talent likely to occur as a consequence of the financial crisis, and b) to enable new Ph.D.s to develop experience, making them more effective researchers and/or teachers in the long term.

Following a call for applications and intensive review of 531 candidates by a panel of 30 leading computer scientists in the summer of 2009, a total of 60 recent Ph.D. graduates were named to the inaugural class of CIFellows. They began work in fall 2009, spanning research/education topics as diverse as theoretical computer science, computer algorithms, programming languages, networks, operating systems, AI/machine learning, synthetic biology, computational neuroscience, and education technologies,

Near the halfway point of the first year of the CIFellowship, an assessment was deployed to gather information from each CIFellow and mentor regarding the appropriateness of a second year of support. Of the 58 CIFellows remaining in the program at that time (two CIFellows departed the program in early 2010 after accepting permanent opportunities), nearly all reported

highly successful or moderately successful experiences. CIFellows who had not yet accepted full-time appointments elsewhere were unanimous in their desire to continue in the program for a second year. These sentiments were largely echoed by the mentors. In April, CRA/CCC extended offers of second-year support to 42 CIFellows. Of the eighteen who had found permanent positions, eight were hired into tenure-track faculty positions, one into a teaching-track faculty position, and five into industrial research positions. Two elected to pursue other postdoctoral positions, including one through the prestigious Simons Foundation Postdoctoral Fellowship Program.

The success of the CIFellows Project, coupled with a persistent need for postdoctoral support due to the continued economic downturn, prompted CRA/CCC to request additional funding to fully support the initial cohort for a second year and to extend offers to a new class of CIFellows for 2010-11. In June, NSF officially made a new award to CRA/CCC. Meanwhile, in April, CRA/CCC announced a call for applications for 2010-11 CIFellowships, and assembled a committee of 25 leading computer scientists in preparation for a rigorous review of candidates during the summer months. A total of 218 applications were submitted by the application deadline at the end of May, and a total of 47 awardees are expected by fall 2010.

CRA-Education
During 2009-10, the CRA special working group on education completed its white paper "Creating Environments for Computational Researcher Education," which was released at CRA's Conference at Snowbird in July. The report provides guidance that will help institutions create an undergraduate environment that supports the acquisition and internalization of the computationally oriented researcher mindset, and suggests three major mechanisms for meeting that goal. These include: 1) Developing *flexible curricular structures* that can more easily reflect and adapt to change; 2) Providing a *"research-oriented" environment* in the undergraduate program; and 3) Supporting the *assimilation and putting into practice of enduring cognitive skills and core concepts* over four years and different contexts through the deepening process of building mastery.

During the conference at Snowbird a meeting was held to solicit community input on the role of CRA in ensuring the continuing health of the research pipeline related to education. The ideal outcome of CRA-E's activities is that every computer science undergraduate gains an understanding on what computer science research is about, has the opportunity to be involved in research activities, and understands the benefits of a graduate education and a research career.

Outstanding Undergraduate Researcher Awards
In 2010, CRA presented awards to winners Elyot Grant (University of Waterloo), Matt McCutchen (University of Maryland), and Justine Sherry (University of Washington). Runners-Up were Zachary Abel (Harvard University), Di Wang (Cornell University), Lucy Vasserman (Pomona College), and Xuexin (Alice) Zhu (Harvey Mudd College). In addition, fourteen students were selected as Finalists and a number received Honorable Mentions. The student awards, given for outstanding research potential, were sponsored this year by Mitsubishi Electric Research Labs.

Community-Building
The Computing Community Consortium (CCC) is a standing committee of CRA, funded through a cooperative agreement between the National Science Foundation (NSF) and CRA. It is comprised of eighteen leading, broad-based computer scientists who serve staggered

three-terms, plus four ex officio members: the CCC Council Chair; CCC Council Vice Chair; CCC Director (who joined CRA in April); and CRA Executive Director. The CCC Council meets by conference call approximately every two weeks and in person three times each year, with at least one meeting in Washington, DC.

During this year, the CCC continued to support and guide visioning activities led by researchers in the community. One particular activity on robotics was the subject of extensive dialogue between the CCC and various Federal funding agencies, and it is anticipated that a funding program will result on the basis of the CCC-led roadmap as well as the subsequent interactions. The CCC also launched several new efforts on free/open source software, cross-layer reliability, computer architecture, and interactive technologies—all proposed and led by researchers in the community.

Separately, at the request of the NSF, the CCC organized and ran a large multi-agency workshop on "Discovery and Innovation in Health Information Technology" in October, bringing together more than one hundred leading computer scientists, systems engineers, social scientists, and medical practitioners at a San Francisco hotel to identify key research directions. Participants included Federal officials from the NSF, National Library of Medicine, National Institute of Standards and Technology, Office of the National Coordinator for Health Information Technology, and Agency for Healthcare Research and Quality. The workshop report that resulted was followed by a "Smart Health & Wellbeing" solicitation issued by the NSF in May.

Also in May, following up on the success of the CCC's Transition Team white papers in fall 2008, the White House Office of Science and Technology Policy (OSTP) asked the CCC to draft a series of white papers on data analytics, describing how data mining, machine learning, predictive modeling, and related computational approaches are critical for success in a number of national priority areas, including healthcare, energy, transportation, and others. The CCC began calling on leading researchers in the community to serve as co-authors of these papers.

The CCC was initially funded in fall 2006 and commenced full-scale operations in spring 2007 with a budget of approximately $2 million per year. In a reverse site visit conducted in February, the NSF review committee concluded: "The unanimous consensus of the panel is that the CCC is an excellent project that has huge potential payoff not only to the computing research community but to all of science." As a result, the initial funding for the CCC has been continued through fall 2011, and NSF has asked the CRA to submit a proposal for an additional four years of support for the CCC.

Computing Leadership Summit: CRA hosted the annual Leadership Summit for presidents, executive directors, and other senior leadership of CRA, its five affiliate societies (AAAI, ACM, CACS/AIC, IEEE-Computer Society, SIAM, and USENIX), and NRC's Computer Science and Telecommunications Board. The sixteenth Summit was held February 22, 2010, in Washington, DC. Speakers included: Peter Lee (Director, Transformational Convergence Technology Office, DARPA); Steve Robinson (Special Assistant, Department of Education, assigned to the White House Domestic Policy Council); John Palafoutas (Executive Director of the Task Force on American Innovation and President of the National Inventors Hall of Fame); Jeannette Wing (Assistant Director of NSF for CISE); and Jan Cuny (National Science Foundation/National Lab Day).

2009-10 Computing Research Association Members

Academic Members

*The following departments held membership in CRA for all,
or in a few cases part, of the period July 2009 to June 2010.*

Arizona State University (CSE)
Auburn University (CSSE)
Azusa Pacific University (CS)
Binghamton University, SUNY (CS)
Boston College (CS)
Boston University (CS)
Bowdoin College (CS)
Bowling Green State University (CS)
Bradley University (CS)
Brandeis University (CS)
Brown University (CS)
Bucknell University (CS)
California Institute of Technology (CS)
Carnegie Mellon University (CS)
Case Western Reserve University (EECS)
City University of New York, Graduate
Center (CS)
Clemson University (CS)
Colgate University (CS)
College of Charleston (CS)
College of William & Mary (CS)
Colorado School of Mines (MCS)
Colorado State University (CS)
Columbia University (CS)
Cornell University (CS)
Dartmouth College (CS)
DePaul University (CDM)
Drexel University (CS)
Drexel University (IST)
Duke University (CS)
Emory University (MCS)
Florida Institute of Technology (CS)
Florida International University (CS)
Florida State University (CS)
George Mason University (CS)
George Washington University (CS)
Georgetown University (CS)
Georgia Institute of Technology (CS)
Georgia Institute of Technology (CSE)
Georgia Institute of Technology (IC)
Georgia Southern University (IT)

Georgia State University (CS)
Grinnell College (MCS)
Harvard University (CS)
Harvey Mudd College (CS)
Hobart and William Smith Colleges (MCS)
Hofstra University (CS)
Illinois Institute of Technology (CS)
Indiana University School of Informatics and
Computing
Iowa State University (CS)
Iowa State University (ECE)
Johns Hopkins University (CS)
Johns Hopkins University (SI)
Juniata College (IT & CS)
Kansas State University (CIS)
Kent State University (CS)
Korea Advanced Institute of Science &
Technology (CS)
Lafayette College (CS)
Lehigh University (CSE)
Louisiana State University (CS)
Loyola University, Chicago (CS)
Marquette University (CS)
Marymount University (IT)
Massachusetts Institute of Technology
(EECS)
Miami University (CS)
Michigan State University (CSE)
Michigan Technological University (CS)
Mississippi State University (CSE)
Montana State University (CS)
Montclair State University (CS)
Mount Holyoke College (CS)
National University of Singapore (CS/IS)
Naval Postgraduate School (CS)
New Mexico State University (CS)
New York University (CS)
North Carolina State University (CS)
North Dakota State University (CSOR)
Northeastern University (CIS)
Northwestern University (EECS)

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Nova Southeastern University (CS)
Oakland University (CSE)
Ohio State University (CSE)
Ohio University (EECS)
Oklahoma State University (CS)
Oregon State University (EECS)
Pace University (CSIS)
Pennsylvania State University (CSE)
Pennsylvania State University (IST)
Polytechnic University (CIS)
Pomona College (MCS)
Portland State University (CS)
Princeton University (CS)
Purdue University (CS)
Purdue University (ECE)
Regis University (CIS)
Rensselaer Polytechnic Institute (CS)
Rice University (CS)
Rochester Institute of Technology (CS)
Rutgers University, Busch Campus (CS)
Rutgers University, Camden (CS)
Saint Louis University (MCS)
Santa Clara University (CE)
Simon Fraser University (CS)
Singapore Management University (IS)
Southern Illinois University, Carbondale (CS)
Southern Polytechnic State University (CSE)
Stanford University (CS)
Stevens Institute of Technology (CS)
Stony Brook University, SUNY (CS)
Swarthmore College (CS)
Syracuse University (IS)
Tecnologico de Monterrey, ITESM, Monterrey Campus (DTIE)
Texas A&M University (CSE)
Texas A&M University, Corpus Christi (CS)
Texas State University (CS)
Toyota Technological Institute at Chicago (CS)
Tufts University (CS)
Union College (CS)
University at Albany, SUNY (CI)
University at Buffalo, SUNY (CSE)
University of Alabama, Birmingham (CIS)
University of Alabama, Tuscaloosa (CS)
University of Alberta (CS)
University of Arizona (CS)
University of Arkansas (CSCE)

University of Arkansas at Little Rock (IS&SE)
University of British Columbia (CS)
University of Calgary (CS)
University of California, Berkeley (EECS)
University of California, Berkeley (IMS)
University of California, Davis (CS)
University of California, Irvine (ICS)
University of California, Los Angeles (CS)
University of California, Riverside (CSE)
University of California, San Diego (CSE)
University of California, Santa Barbara (CS)
University of California, Santa Cruz (CE)
University of California, Santa Cruz (CS)
University of Central Arkansas (CS)
University of Central Florida (EECS)
University of Chicago (CS)
University of Cincinnati (CS)
University of Colorado, Boulder (CS)
University of Delaware (CIS)
University of Georgia (CS)
University of Hawaii (ICS)
University of Houston (CS)
University of Idaho (CS)
University of Illinois, Chicago (CS)
University of Illinois, Urbana Champaign (CS)
University of Iowa (CS)
University of Kansas (EECS)
University of Kentucky (CS)
University of Louisiana at Lafayette (CACS)
University of Maryland (CS)
University of Maryland, Baltimore Co (CSEE)
University of Maryland, Baltimore County (IS)
University of Massachusetts, Amherst (CS)
University of Massachusetts, Boston (CS)
University of Massachusetts, Lowell (CS)
University of Michigan (EECS)
University of Michigan (I)
University of Michigan, Dearborn (CIS)
University of Minnesota (CSE)
University of Mississippi (CIS)
University of Missouri, Columbia (CS)
University of Missouri, Kansas City (CS)
University of Montana (CS)
University of Nebraska at Omaha (CS/IST)
University of Nebraska, Lincoln (CSE)
University of Nevada, Las Vegas (CS)
University of Nevada, Reno (CSE)

University of New Hampshire (CS)
University of New Mexico (CS)
University of New Mexico (ECE)
University of North Carolina at Chapel Hill (CS)
University of North Carolina at Chapel Hill (SILS)
University of North Carolina, Charlotte
University of North Dakota (CS)
University of North Texas (CS)
University of Notre Dame (CSE)
University of Oklahoma (CS)
University of Oregon (CIS)
University of Pennsylvania (CIS)
University of Pittsburgh (CS)
University of Pittsburgh (IS)
University of Puget Sound (MCS)
University of Rochester (CS)
University of South Alabama (CIS)
University of South Carolina (CSE)
University of South Florida (CSE)
University of Southern California (CS)
University of Southern California (EES)
University of Texas, Austin (CS)
University of Texas, Austin (ECE)
University of Texas, Brownsville (CIS)
University of Texas, Dallas (CS)

University of Texas, El Paso (CS)
University of Toronto (CS)
University of Utah (CS)
University of Virginia (CS)
University of Washington (CSE)
University of Washington (I)
University of Washington, Bothell (CS)
University of Washington, Tacoma (CSS)
University of Waterloo (CS)
University of Wisconsin, Madison (CS)
University of Wisconsin, Milwaukee (EECS)
University of Wyoming (CS)
Utah State University (CS)
Vanderbilt University (EECS)
Villanova University (CS)
Virginia Tech (CS)
Wake Forest University (CS)
Washington State University (EECS)
Washington University in St. Louis (CSE)
Wayne State University (CS)
Western Michigan University (CS)
Williams College (CS)
Worcester Polytechnic Institute (CS)
Wright State University (CSE)
Yale University (CS)
York University (CSE)

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*indicates new member in 2009-10

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Kapil Patnaik	Webmaster/IT Manager
Carla Romero	Director of Programs
Jean Smith	Sr. Communications Associate and *CRN* Editor

CRA Financial Statement
July 2009 - June 2010

Income | $4,880,624

Gen & Admin/Membership | $1,115,410 | 23%

Info/Communications | $193,509 | 4%

Community | $1,093,409 | 22%

Policy | $0 | 0%

Human Resources | $2,478,296 | 51%

Expenses | $4,079,859

Gen & Admin/Membership | $1,015,557 | 25%

Policy | $154,147 | 4%

Info/Communications | $219,743 | 5%

Community | $1,089,483 | 27%
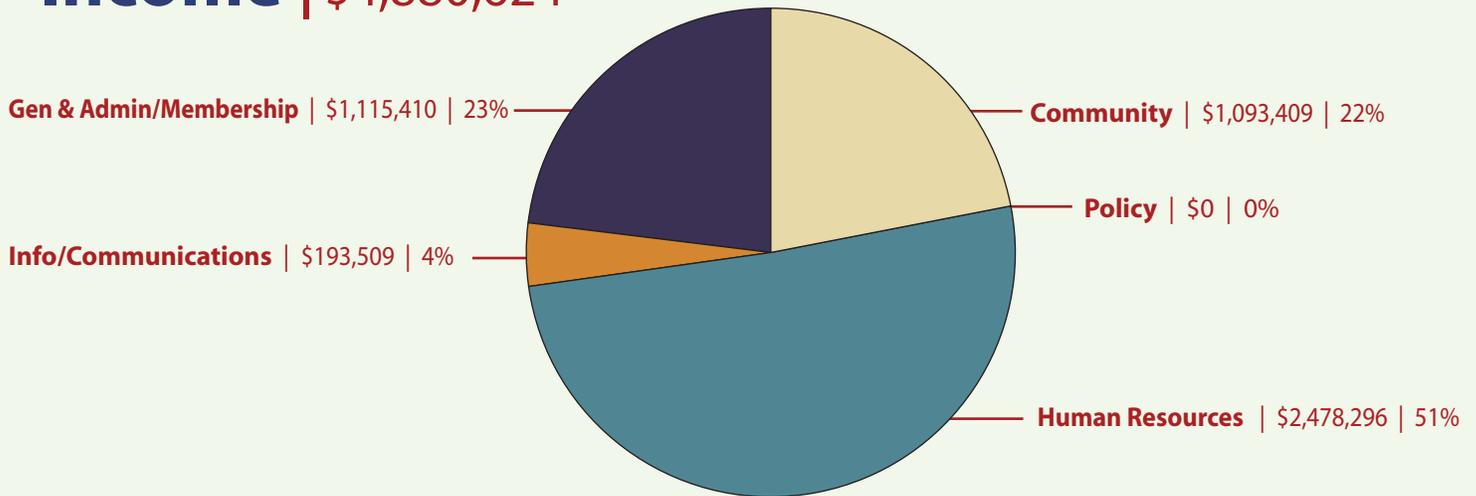
Human Resources | $1,600,929 | 39%
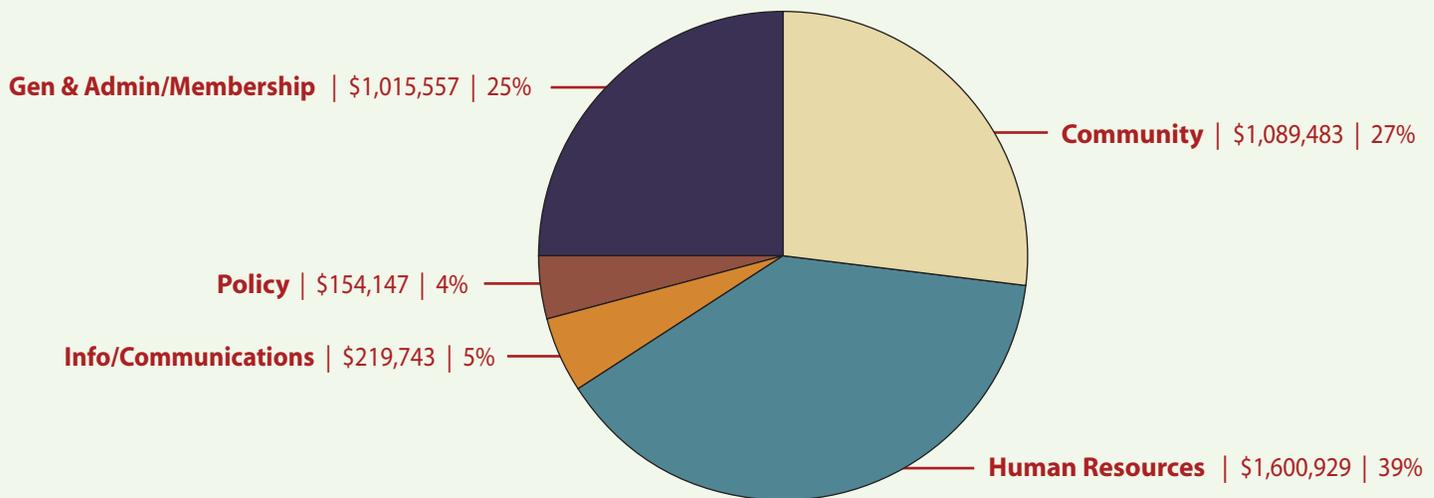
Financial Position | $2,587,222

Cash & Accts Receivable	$4,776,096
Investments	$1,599,730
Total Assets	$6,775,269
Total Liabilities	$4,188,047
Total Net Assets	$2,587,222*

*Includes: Total Unrestricted Net Assets of $2,234,195 and Total Temporarily Restricted Net Assets of $353,027.

Notes: CIFellows subawards totaling $5,536,060 in both Income and Expenses in FY10 are not included to provide a better comparison with prior years. Indirect Expenses are not allocated across mission areas.