



## 2007 Annual Report

### *Message from the Board Chair*

I am pleased to report that the period July 1, 2006 to June 30, 2007 was another successful year for CRA. Its financial position is stable and secure, and the number of participants engaged in its activities continues to grow.

A major effort went into launching the *Computing Community Consortium* (CCC) to stimulate new ideas in computing research. CRA's proposal was selected for funding by the National Science Foundation in October 2006. Ed Lazowska, University of Washington, was appointed Chair of the CCC Council in March 2007, and the membership of the inaugural CCC Council was announced in June 2007. The first public CCC activity was to organize five plenary talks at the Federated Computing Research Conference later that month. CCC will be a major CRA activity during the next several years as part of a broad-based effort to define the future of computing.

By organizing community activities, providing data and information to constituents, decision makers and the public, and working to improve the opportunities available to women and minorities, CRA's visibility continued to increase as a reliable and effective voice for computing research. A few brief highlights appear below.

***Community:*** CRA hosted its annual *Computing Leadership Summit* in February, bringing together the 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. Topics discussed included the newly-launched CCC, "Looking Forward at NSF," and "Snapshot of the Global Networking and Information Technology (NIT) Ecosystem."

***Human Resources:*** *CRA-Women (CRA-W)* had a banner year, continuing its efforts to increase the representation and opportunities for women in computing research. Five CRA-W workshop programs were active and successful (Discipline-Specific Workshops; Grad Cohort; Career Mentoring; Cohort of Associate Professors; and the Distinguished Lecture Series). CRA-W and CDC (Coalition to Diversify Computing) began to coordinate several projects as part of CRA-W's Broadening Participation in Computing (BPC) grant from NSF. For the first time one of CRA-W's long-time successful projects, the *Distributed Mentoring Project* (US and Canada), was coordinated with the CDC.

**Information:** CRA conducted its 35th annual *Taulbee Survey* of Ph.D.-granting CS&CE departments and the *Salary Survey of Computer Science Researchers in Industrial Laboratories*. The popular *Computing Research Policy Blog* (<http://www.cra.org/blog>) and the *CRA Bulletin* (<http://www.cra.org/bulletin>) provided timely information on policy, education and research issues. CRA also 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. CRA has become the source for journalists, researchers, and others seeking input for articles and papers related to IT, including issues such as: employment opportunities; off-shoring of jobs; women and minorities in computing; and the importance of computing research to the economy.

**Research Policy:** CRA's Government Affairs Committee continued to advance CRA's policy agenda in Washington, which resulted in progress in several key areas. The committee continues to be successful in engaging members of the computing community in meaningful activities that aid and interface with CRA's policy activities. Efforts to keep CRA's constituency more informed about relevant policy matters has improved with more timely updates to Computing Research Advocacy Network (CRAN) members, as well as some new resources now available on the CRA Government Affairs website. Additionally, consideration was given to a number of both new and ongoing issues that could impel some GAC involvement as the policy interface for the Computing Community Consortium and the new CRA-Education Committee.

**CRA Board of Directors:** The Board welcomed new members on July 1, 2006: Annie Anton (North Carolina State); Andrew Chen (Intel Corp.); AAI representative Marie desJardins (University of Maryland, Baltimore County); Eric Grimson (MIT); and Bob Sproull (Sun Microsystems Laboratories).

Board members whose terms expired in June 2007 include: Robert Constable (Cornell University); Tim Finin (University of Maryland, AAI representative); Leah Jamieson (Purdue University); and Robert Kahn (Corporation for National Research Initiatives). We thank 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 on its various committees.

As always, CRA is a fount of ideas and activities, due to the active engagement of its committees, its Board, and its members. My sincere thanks to all who continue to make CRA a vibrant and successful organization.

**Daniel A. Reed**  
**Board Chair**

## HIGHLIGHTS 2006-07

### Research Policy

In FY 2006-07, CRA's Government Affairs Committee (GAC) continued its efforts to advance CRA's policy agenda in Washington, resulting in strong progress in several key areas. Efforts to keep our constituency more informed about relevant policy matters has improved with more timely updates to our Computing Research Advocacy Network (CRAN) members, as well as some new resources on the CRA Government Affairs website. We continue to be successful in engaging members of the computing community in meaningful activities that aid and interface with our policy activities. Additionally, consideration was given to a number of both new and ongoing issues that could impel some GAC involvement as the policy interface for the Computing Community Consortium and the new CRA-Education Committee.

Long-running CRA efforts (both on its own and as part of the broader scientific community) to convince Congress of the importance of continued, robust support for fundamental research continued to bear fruit in appropriations and authorization legislation. On the appropriations side, it appears Congress remains committed to doubling the budgets of the National Science Foundation, National Institute of Standards and Technology, and Department of Energy Office of Science, as called for in the President's *American Competitiveness Initiative* and the Democratic Innovation Agenda. The House and Senate leadership crafted FY 2008 budget resolutions that would allow congressional appropriators to provide significant increases for those key science agencies.

CRA mobilized its Computing Research Advocacy Network to help put pressure on members of the Senate Appropriations Committee to provide similar increases in their versions of the appropriations bills. The GAC put out a call to CRAN members to urge their Senators to co-sign two "Dear Colleague" letters to the Chair and Ranking Members of the relevant Senate Appropriations subcommittees requesting increases for NSF and DOE's Office of Science. CRAN joined a number of other grassroots efforts coordinated by members of the science advocacy community with good results.

### Information Activities

CRA conducted its 36th annual *Taulbee Survey* of Ph.D.-granting CS&CE departments. The annual *Salary Survey of Computer Science Researchers in Industrial Laboratories* was conducted last fall and results were provided to labs that participated.

The popular *Computing Research Policy Blog* (<http://www.cra.org/govaffairs/blog>) continued to provide postings on current activities in the policy arena, while the CRA Bulletin (<http://www.cra.org/bulletin>) focused on education and research data gleaned from CRA surveys and outside sources.

CRA continued to provide 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. CRA-W produced a *biannual newsletter for CRA-W alumni* that is circulated widely.

CRA continues to serve as a source of information on a variety of IT topics. Inquiries from journalists, researchers, educators, and others increase each year. The demand for statistical

information on CS and CE enrollments continues to be high, and both Board members and staff regularly respond to such requests.

## *Human Resources*

### **Awards:**

Janice E. Cuny, Professor of Computer and Information Science at the University of Oregon and Program Director in CISE at the National Science Foundation, received CRA's *A. Nico Habermann award* for 2007. During the year, CRA presented *Outstanding Undergraduate Researcher Awards* to Stephanie Rosenthal, Carnegie Mellon University, and Lester Mackey, Princeton University. Runners-Up were: Ana Pop, University of British Columbia; Kristal Sauer, University of Nevada, Las Vegas; and Matei Zaharia, University of Waterloo. In addition, ten students were selected as Finalists and a number received Honorable Mention. The student awards, given for outstanding research potential, were sponsored this year by Microsoft Research.

### **CRA-W:**

Under the capable leadership of co-chairs Lori Clarke and Lori Pollock, *CRA-Women (CRA-W)* had a banner year, continuing its efforts to increase the representation and opportunities for women in computing research. CRA-W formed a new alliance with the CDC (Coalition to Diversify Computing) by coordinating several projects as part of CRA-W's Broadening Participation in Computing (BPC) grant from NSF.

Five workshop programs were active this year: 1) the popular *Discipline-Specific Workshops*, a collaboration of CRA-W and CDC to provide mentoring workshops in specific subfields of computing to increase the participation of underrepresented groups; 2) highly successful *Grad Cohort*, for women graduate students in their first and third year of graduate school that covers grad school survival, career, planning, and networking; 3) *Career Mentoring*, targeting current and prospective faculty at primarily teaching institutions; 4) *Cohort of Associate Professors*, an attempt to increase the percentage of CS&E women faculty with the rank of full professor by mentoring a cohort of women from the associate professor ranks; and 5) *Distinguished Lecture Series*, which sends faculty and industry researchers to campuses to encourage women and minorities to attend graduate school.

CRA-W is well known for the success of its *Distributed Mentoring Project* (US and Canada). This year CRA-W worked closely with CDC, using the same web-based infrastructure for student and mentor applications and advertising both programs together. Publicity, selection, and matching for the two programs were separate but coordinated, with a committee involving both CRA-W and CDC members. Moreover, working with CDC, CRA-W has tried to improve its advertising in order to reach more students at minority institutions. For summer 2007, there were 33 mentees matched with 22 mentors, from a total of 149 student applications and 69 mentor applications. The number of applications decreased from last year, and which may reflect the increase in industry internship opportunities and decreasing enrollments of women in computer science at the undergraduate level. The Canadian DMP made 11 awards for this summer 2007, up from previous years.

*Collaborative Research Experiences for Undergraduates:* Since fall 2005, CREU has been led in cooperation with CDC, with teams composed of students from underrepresented groups in computing and with the selection committee composed of CRA-W and CDC members. There were 12 teams out of 17 applications funded for this coming year with a total of 31 students, including 4 Hispanic, 1 African-American, 4 Chinese, and 4 South Asian. CREU has also been

expanded to include interdisciplinary teams, where only some of the faculty and students are from computing. The multidisciplinary teams are funded by a new NSF CiTeam grant. There were 7 of 9 applications for multidisciplinary teams funded for this first year, involving 17 students in total, a very positive response to this new program.

CRA-W activities also included reaching out to women who work in government and industrial research labs; continuing its biannual newsletter for alumni; fundraising; contributing a "Pipeline" column to each edition of *Computing Research News*; improving the CRA-W website; and conducting project evaluations.

#### **CDC:**

The Coalition to Diversify Computing (CDC) is a joint organization of the ACM, CRA and IEEE-CS. Each of the parent organizations provided funds for the 2006-07 operating budget, as well as administrative support. During the year, plans were underway for the Richard Tapia Celebration of Diversity in Computing conference October 14-17, 2007.

CDC worked with CRA-W to develop and run the joint CDC/CRA-W project "*Computing Research Experiences for Undergraduates*" in 2006. CREU had 17 applications, and awards were made to 12 institutions. In total, 31 students were supported (27 female, 4 male). This year CDC and CRA-W created a joint application for the *Distributed Mentor Project* (parallel projects of the CDC and CRA-W, jointly administered). About 150 student applications and about 70 mentor applications were received, and review is currently underway.

*The CDC/CRA-W BPC Alliance* has monthly teleconferences to discuss ways to achieve the streamlining and integration of joint projects. In addition, the CDC is cooperating as a partner with the National Science Foundation's new three-year Broadening Participation in Computing program, the Empowering Leadership: Computing Scholars of Tomorrow Alliance. The Empowering Leadership Alliance is building a community comprised of human, institutional, and programmatic resources to help ensure the success of minority scholars in computing disciplines at majority research institutions.

### ***Community-Building***

CRA hosted its annual *Computing Leadership Summit* in February, bringing together the 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. Jill Ross spoke of the work being undertaken by the Image of Computing Task Force, showing three video presentations. Bhavya Lal (Science and Technology Policy Institute), spoke on the topic "Snapshot of the Global Networking and Information Technology (NIT) Ecosystem. CRA's board chair Dan Reed (University of North Carolina, Chapel Hill) discussed "The Computing Community Consortium: Why, What, Who, How?" and Jeannette Wing (Carnegie Mellon University; Incoming CISE AD) spoke on "Looking Forward at NSF."

Two prominent computer scientists received *Distinguished Service Awards* in 2007 from CRA: Peter A. Freeman, Washington Advisory Group, Washington, DC (previously Assistant Director of NSF for CISE); and John E. Hopcroft, the IBM Professor of Engineering and Applied Mathematics in Computer Science at Cornell University.

*CRA Financial Statement*

*July 1, 2006 - June 30, 2007*

*See Chart on Page 12*

## 2006-07 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 2006 to June 2007.*

*\*indicates new members in 2006-07*

Arizona State University - CSE	Georgia Southern University - IT
Auburn University - CSSE	Georgia State University - CS
Binghamton University, SUNY - CS	Grinnell College - MCS
Boston College - CS	Harvard University - CS
Boston University - CS	Harvey Mudd College - CS
Bowling Green State University - CS	Hobart and William Smith Colleges - MCS
Bradley University - CS	Hofstra University - CS *
Brandeis University - CS	Illinois Institute of Technology - CS
Brigham Young University - CS	Illinois State University - ACS
Brown University - CS	Indiana University - ICS
Bryn Mawr College - MCS	Iowa State University - CS
Bucknell University - CS	Johns Hopkins University - SI
California Institute of Technology - CS	Johns Hopkins University - CS
California Polytechnic State University - CS	Juniata College - IT & CS
Carnegie Mellon University - CS	Kansas State University - CIS
Case Western Reserve University - EECS	Kent State University - CS
City University of New York, Graduate Center - CS	Lafayette College - CS
Claremont Graduate University - IST *	Lehigh University - CSE
Clemson University - CS	Long Island University - ICS
Colgate University - CS	Louisiana State University - CS
College of William & Mary - CS	Massachusetts Institute of Technology - EECS
Colorado School of Mines - MCS	Memorial University of Newfoundland - CS *
Colorado State University - CS	Miami University - CS
Columbia University - CS	Michigan State University - CSE
Cornell University - CS	Michigan Technological University - CS
Cornell University - ECE	Mississippi State University - CSE
Dalhousie University - CS	Montana State University - CS
Dartmouth College - CS	Montclair State University - CS
DePaul University - CS	Mount Holyoke College - CS *
Drexel University - IST	National University of Singapore - CS/IS
Drexel University - CS	Naval Postgraduate School - CS
Duke University - CS	New Mexico State University - CS
Emory University - MCS	New York University - CS
Florida Atlantic University - CSE	North Carolina State University - CS
Florida Institute of Technology - CS	North Dakota State University - CSOR *
Florida International University - CS	Northeastern University - CIS
Florida State University - CS	Northwestern University - EECS
Florida State University - IS	Nova Southeastern University - CS *
George Mason University - CS *	Oakland University - CSE
George Washington University - CS *	Ohio State University - CSE
Georgia Institute of Technology - CSE *	Ohio University - EECS
Georgia Institute of Technology - CSS *	Oklahoma State University - CS
Georgia Institute of Technology - IIC *	Old Dominion University - CS

Oregon State University - EECS  
 Pace University - CSIS  
 Pennsylvania State University - IST  
 Pennsylvania State University - CSE  
 Polytechnic University - CIS  
 Pomona College - MCS  
 Portland State University - CS  
 Princeton University - CS  
 Purdue University - ECE  
 Purdue University - CS  
 Rensselaer Polytechnic Institute - CS  
 Rice University - CS  
 Rochester Institute of Technology - CS  
 Roosevelt University - CS&T  
 Rutgers University, Busch Campus - CS  
 Saint Louis University - MCS  
 Santa Clara University - CE  
 Simon Fraser University - CS  
 Singapore Management University - IS  
 Southern Illinois University, Carbondale - CS  
 Southern Methodist University - CSE  
 Southern Polytechnic State University - CSE  
 Stanford University - CS  
 Stevens Institute of Technology - CS  
 Stony Brook University, SUNY - CS  
 Swarthmore College - CS  
 Syracuse University - IS  
 Temple University - CIS  
 Texas A&M University - CS  
 Texas State University - CS \*  
 Toyota Technological Institute at Chicago - CS  
 Tufts University - CS  
 Union College - CS  
 University at Buffalo - CSE  
 University of Alabama, Birmingham - CIS  
 University of Alabama, Tuscaloosa - CS  
 University of Alberta - CS  
 University of Arizona - CS  
 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 - CS  
 University of California, Santa Cruz - CE  
 University of Central Arkansas - CS \*  
 University of Central Florida - CS  
 University of Chicago - CS  
 University of Cincinnati - CS  
 University of Colorado, Boulder - CS  
 University of Delaware - CIS  
 University of Denver - ECS  
 University of Georgia - CS  
 University of Hawaii - ICS  
 University of Houston - CS  
 University of Illinois, Chicago - CS  
 University of Illinois, Urbana Champaign - CS  
 University of Illinois, Urbana Champaign - ECE  
 University of Iowa - CS  
 University of Kansas - EECS  
 University of Kentucky - CS  
 University of Louisiana at Lafayette - CACS  
 University of Louisville - CECS  
 University of Maine - CS  
 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 Michigan - I  
 University of Michigan - EECS  
 University of Michigan, Dearborn - CIS  
 University of Minnesota - CSE  
 University of Minnesota, Duluth - CS \*  
 University of Mississippi - CIS  
 University of Missouri, Columbia - CS  
 University of Missouri, Kansas City - CS \*  
 University of Missouri, Rolla - 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 Brunswick - CS  
 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 - IT  
 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 - EES  
 University of Southern California - CS  
 University of Tennessee, Knoxville - EECS  
 University of Texas, Arlington - CSE  
 University of Texas, Austin - ECE \*  
 University of Texas, Austin - CS  
 University of Texas, Dallas - CS  
 University of Texas, El Paso - CS  
 University of Toronto - CS  
 University of Tulsa - MCS  
 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 Commonwealth University - CS  
 Virginia Tech - CS  
 Wake Forest University - CS  
 Washington State University - EECS  
 Washington University in St. Louis - CS  
 Wayne State University - CS  
 Williams College - CS  
 Worcester Polytechnic Institute - CS  
 Wright State University - CSE  
 Yale University - CS  
 York University – CS  
 \*indicates new members in 2006-07

### **Labs and Centers Members**

Microsoft Corporation (Sustaining Member)  
 IBM Research (Supporting Member)  
 Sun Microsystems (Supporting Member)

Accenture Technology Labs  
 Argonne National Laboratory  
 Avaya  
 CA Labs  
 Computer Science Research Institute at  
 Sandia National Labs  
 Fraunhofer Center for Experimental  
 Software Engineering  
 Fujitsu Laboratories of America  
 Google  
 Hewlett-Packard Company  
 IDA Center for Computing Sciences  
 Intel Corporation  
 Lawrence Berkeley National Laboratory

Los Alamos National Laboratory  
 Mitsubishi Electric Research Labs  
 National Center for Atmospheric Research  
 NCSA  
 NEC Laboratories America  
 Pacific Northwest National Laboratory  
 Panasonic Information & Networking  
 Technologies Lab  
 Ricoh Innovations  
 San Diego Supercomputer Center  
 SAP Labs  
 SRI International  
 Telcordia Technologies

### **Affiliated Professional Society Members**

American Association for Artificial Intelligence  
 Association for Computing Machinery  
 Canadian Association of Computer Science (CACCS/AIC)  
 IEEE Computer Society  
 Society for Industrial and Applied Mathematics  
 USENIX Association

## *Board of Directors*

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**Lori Clarke**, *Vice Chair*, University of Massachusetts at Amherst  
**Carla Ellis**, *Secretary*, Duke University  
**Philip Bernstein**, *Treasurer*, Microsoft Research

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**Annie Anton**  
North Carolina State University

**William Aspray**  
*Indiana University*

**Andrew Chien**  
Intel Corporation

**Anne Condon**  
*University of British Columbia*

**Robert Constable**  
*Cornell University*

**George V. Cybenko**  
*Dartmouth College*  
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**Richard A. DeMillo**  
*Georgia Institute of Technology*

**Marie desJardins**  
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Massachusetts Institute of Technology

**Mary Jean Harrold**  
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Champaign*

**Eugene Spafford**  
*Purdue University*  
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Sun Microsystems Laboratories

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*A9.com, Inc.*

**Frank Tompa**  
*University of Waterloo*  
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*Portland State University*

**Richard C. Waters**

*Mitsubishi Electric Research Lab*

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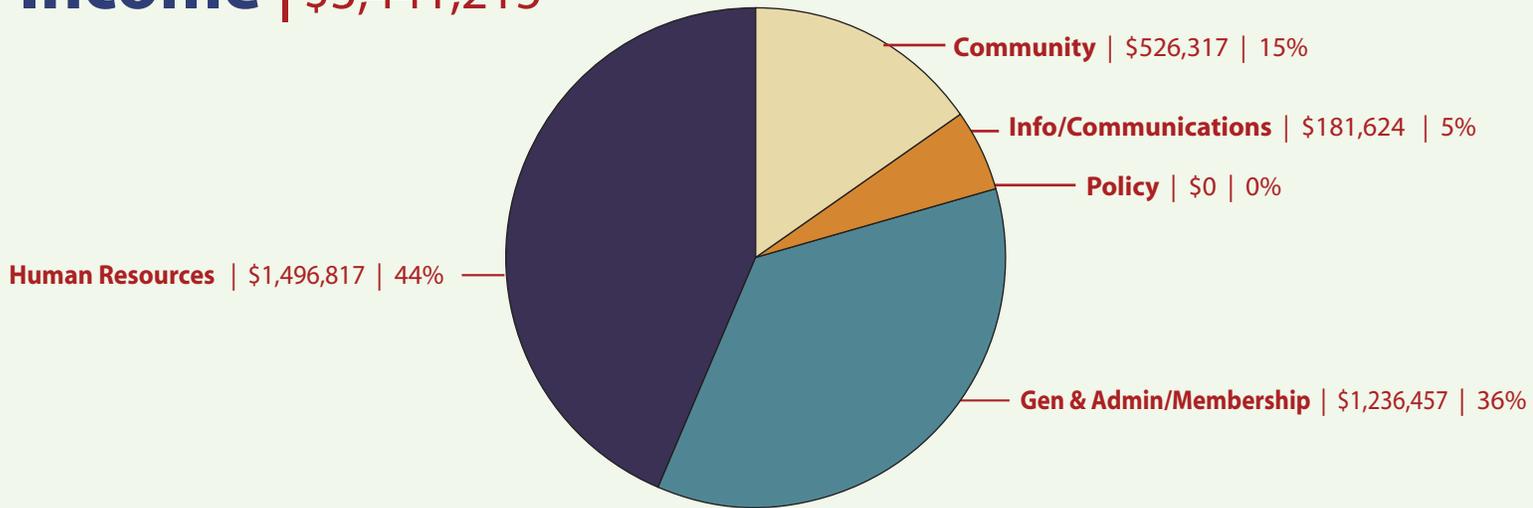
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Betsy Bizot, Surveys/Evaluation  
Mackenzie Colbert, Meetings Coordinator  
Peter Harsha, Director of Government Affairs  
Marie Hooper, Director of Finance  
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Carla Romero, Director of Programs  
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***As of June 30, 2007***

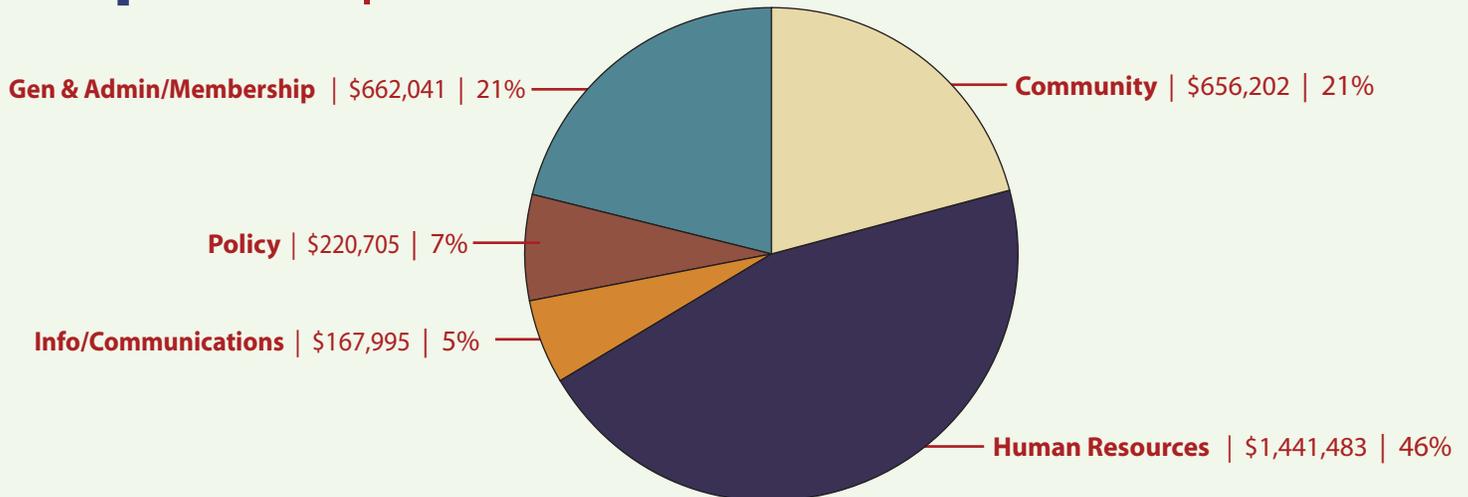
# CRA Financial Statement

July 2006 - June 2007

## Income | \$3,441,215



## Expenses | \$3,148,426



## Financial Position | \$1,977,285

Cash & Accts Receivable	\$997,968
Investments	\$1,382,091
Total Assets	\$2,380,059*
Total Liabilities	\$402,774
Total Net Assets	<u>\$1,977,285</u>

\*Includes: Total Unrestricted Net Assets of \$1,726,394 and Total Temporarily Restricted Net Assets of \$250,891