# What is the Computing Community Consortium?

The Computing Community Consortium was established in 2006 through a Cooperative Agreement between the National Science Foundation (NSF) and the Computing Research Association (CRA).  The Cooperative Agreement states:

> *The purpose of the Computing Community Consortium (CCC) is to provide a voice for the national computing research community.  The CCC facilitates the development of a bold, multi-themed vision for computing research, and communicates that vision to a wide range of major stakeholders.*

Ultimately, **the CCC is focused on catalyzing and empowering the computing research community to pursue more audacious research, all the while attracting bright young talent and fostering development of the next generation of leaders**.

# Who is the CCC?

**The CCC is a standing committee of the Computing Research Association (CRA)**, operating under the CRA's bylaws.  The CCC Council has 18 members on three-year staggered terms, representing the diverse nature of the computing research field, plus two officers (**Ed Lazowska**, University of Washington; **Susan Graham**, University of California, Berkeley) and two *ex officio* members (**Erwin Gianchandani**, CCC Director; **Andrew Bernat**, CRA Executive Director).  However, most importantly, the CCC is part of the computing research community – and it works *with* the community to envision and enable the pursuit of high-impact research directions.
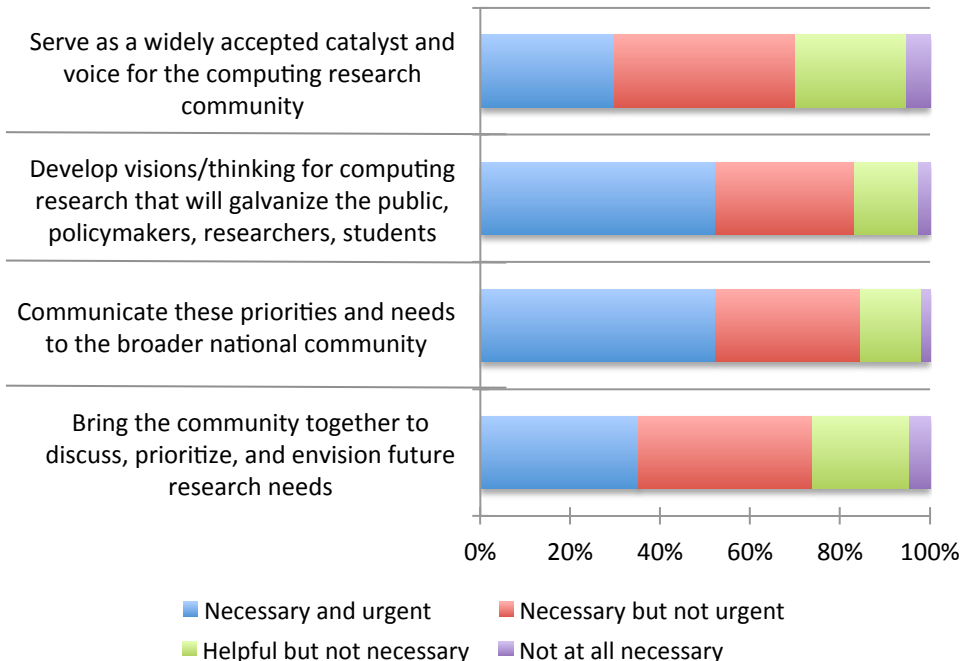
# What value does the CCC add?

The CCC Council is a strong, diverse group of community members that operates with speed and agility; provides extensive coaching, shepherding, and matchmaking to members of the community; helps to re-focus existing subfields, as well as catalyze the formation of new ones; and engages in frank discussions of key issues.

Many of the CCC's highest impact activities could not have been explicitly planned in advance.  The CCC is thus an organization to which the computing research community *and* Federal officials can turn when opportunities/needs arise.  This role as an agile resource able to provide on-demand responses is of extraordinary value and impact.

In 2010, the CCC engaged SRI International to conduct a third-party assessment of the CCC.  SRI surveyed a broad cross-section of the community (>700 people, none of whom had participated in CCC activities).  One key finding is shown to the right.

*How necessary is it to have within the U.S. computing research community an organization designated to perform one or more of the following activities?*

Serve as a widely accepted catalyst and voice for the computing research community

Develop visions/thinking for computing research that will galvanize the public, policymakers, researchers, students

Communicate these priorities and needs to the broader national community

Bring the community together to discuss, prioritize, and envision future research needs

0%   20%   40%   60%   80%   100%

■ Necessary and urgent       ■ Necessary but not urgent
■ Helpful but not necessary  ■ Not at all necessary

*Reprinted from SRI International's final report.*

Visit us online at http://cra.org/ccc.

# What does the Computing Community Consortium do?

- Numerous *talks/articles*, a *blog*, and a *Computing Research Highlight of the Week* – to inspire and engage the community.
- Community *visioning activities* (more than a dozen thus far). These bring together members of the community to coalesce around research visions, articulate these visions in compelling ways, and ideally translate these visions into funded programs under the guidance of the CCC. These are initiated by the community, the CCC Council, or funding agencies.
- CCC-sponsored *Research Frontiers* sessions at major conferences that explore out-of-the-box research ideas in the field.
- *URO* (Undergraduate Research Opportunities) *Zone*, a website designed to inspire undergraduates to pursue research.
- *White Papers* describing strategic areas of investment in computing research. A senior official noted these "have had a clear influence on Administration budget … and already sparked collaborations between government, industry, and academia."
- A daylong symposium at the Library of Congress, *Computing Research that Changed the World*, describing the accomplishments and potential of computing research. Valuable collateral materials (slides, short illustrated papers, videos) were created and disseminated. There have been more than 85,000 YouTube views of the videos.
- *The Computing Innovation Fellows (CIFellows) Project (2009 & 2010)*: a postdoctoral program with many unique, beneficial characteristics. Over 1,200 registered as prospective mentors during the first year, and over 700 applied. In mid-year surveys, every one of the 107 CIFellows reported "highly successful" or "moderately successful" experiences. Over 90% of the CIFellows participated in a December 2010 *CIFellows Research Meeting & Career Mentoring Workshop*.
- A compendium of *Landmark Contributions by Students in Computer Science*, emphasizing the role of education in creating high-impact research breakthroughs. Regina Dugan, the new DARPA Director, highlighted a number of these in early talks.
- A workshop series that yielded a *Network Science and Engineering (NetSE) Research Agenda* – contributing to re-orienting the GENI Project. CCC gave voice to the community, arguing that we did not need the GENI instrument as initially envisioned.
- *Major national multi-agency workshops* on *Discovery and Innovation in Health IT* and *the Role of Information Sciences and Engineering on Sustainability*. These differ from community visioning activities in that CCC takes end-to-end responsibility.
- A *community-wide discussion of the role of postdoctoral programs in our field*, currently underway – a discussion initiated by the CCC but carried out under the CRA banner in order to emphasize that the discussion is broader than the CIFellows Project.
- The recent assessment by PCAST of the 14-agency, $4.3 billion Federal Networking and Information Technology Research and Development (NITRD) program, *Designing a Digital Future: Federally Funded Research and Development in Networking and Information Technology* – in effect a blueprint for the direction of our field. Five CCC Council members were appointed to the 14-person Working Group, and the final report drew heavily upon their understanding of the computing research landscape developed through their CCC involvement, as well as upon various CCC outputs.
- A *Leadership in Science Policy Institute (LiSPI)* that educates computing researchers on how science policy is formulated.

## A sample success story
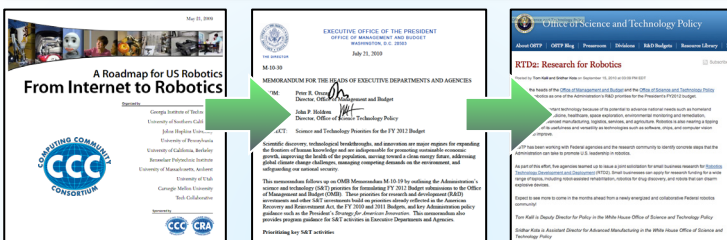


4 workshops were held in 2008. A roadmap was published in May 2009. Extensive discussions then took place between visioning leads & agencies.

OSTP issued a directive to all agencies to include robotics as part of their FY 12 budgets.

Agencies began rolling out robotics initiatives in fall 2010, starting with RTD2

*(Henrik Christensen of Georgia Tech was the PI of the CCC visioning activity.)*

## Key areas moving forward

- Data analytics:
  http://cra.org/ccc/dan
- Health information technology:
  http://cra.org/ccc/hit
- Sustainability:
  http://cra.org/ccc/eit | http://cra.org/ccc/nt
- Learning technologies:
  http://cra.org/ccc/edt