

Computing Community Consortium Three Year Strategic Plan

April 2019

The Computing Community Consortium (CCC) was established in October 2006 through a Cooperative Agreement between the National Science Foundation (NSF) and the Computing Research Association (CRA). Since its creation, CCC's purpose has been to catalyze the development of bold, far-reaching research visions for the benefit of the nation and the advancement of the computing research community in academia, industry, and government. CCC seeks to facilitate the communication of those research visions to stakeholders, both within and beyond the computing research ecosystem. This strategic plan refines and supersedes CCC's plan from 2014, as the CCC no longer is in a position where it needs to establish itself as a steady-state organization, but rather focus on working on behalf of and with the broader research community.

CCC's purpose is captured in its mission statement:

The mission of Computing Research Association's Computing Community Consortium (CCC) is to catalyze the computing research community and enable the pursuit of innovative, high-impact research.

CCC conducts activities that strengthen the research community, articulate compelling research visions, and align those visions with pressing national and global challenges.

CCC communicates the importance of those visions to policymakers, government and industry stakeholders, the public, and the research community itself.

The 2017 renewal proposal articulated the following specific goals for the CCC:

1. Bring the computing research community together to **envision audacious research directions** and to articulate concrete pathways to enable pursuit of these challenges.
2. **Communicate** these challenges and opportunities to the broader national community.
3. **Facilitate investment** in these research challenges **by key stakeholders**.
4. **Inculcate** values of **leadership** and service by the computing research community.
5. Inform and **influence early career researchers to engage** in these community-led research challenges.

And desired outcomes:

- a) **Increase federal agency awareness** of the role computing research must play in addressing a broad spectrum of national priorities.
- b) **Engage the computing research community** in identifying new directions for computing research, in shaping priorities for those new directions, and in responding to existing opportunities in the computing research ecosystem.
- c) **Create high-impact tangible resources**, such as white papers, workshop reports, and presentations that inform stakeholders (federal agencies, science policy experts, researchers, industry, and the general public) as to the current and potential impact of computing research.
- d) **Grow the awareness of CCC** and the role it plays in shaping computing research in all stakeholder communities.
- e) **Grow leadership and community capacity** to engage in and respond to national science policy needs.

CCC seeks to achieve the above goals and desired outcomes as follows.

*1. Bring the computing research community together to **envision audacious research directions**, and to articulate concrete pathways to enable pursuit of these challenges.*

CCC will continue and expand our efforts to identify research challenges. This effort has recently been enhanced with the creation of a half-dozen task forces and working groups with about four members each, drawn mostly from the council with the addition of some external members. These smaller groups amplify CCC effectiveness through concurrent work.

CCC will continue and enhance efforts to reach beyond the council—and its rolodex—with open visioning calls and discussions with representatives throughout academia, industry, and government.

CCC will seek to identify promising research directions, dynamic leaders, and effective ways to support forward progress in computing research.

*2. **Communicate** these challenges and opportunities to the broader national community.*

CCC's communication and engagement plan articulates the specifics of our goals and strategies regarding this item. It is important to note that increasing awareness of the CCC is a strategic means, but not an end unto itself. A better known CCC can obtain broader, better input, and achieve comprehensive, more-impactful dissemination of results.

To this end, CCC will prioritize the following items from the Communication, Engagement and Outreach Plan (Increase and Structure Communication), which will be further fleshed out in the Implementation Plan:

- Create a visible and reliable presence on arXiv
- Amplify work of Council Members
- Rework CCC website
- Provide actionable collaterals
- Push more contact via social media

The CCC has started to keep track of “gems” from the community, which are positive comments, outcomes, and connections all either about the CCC or made possible by the CCC and its impact in computer science research.

3. Facilitate investment in these research challenges by key stakeholders.

CCC will continue to expand engagement with stakeholders that may invest in research, including government, and—when appropriate—foundations.

The primary driver here will be the compelling research visions catalyzed by the CCC. To make stakeholders aware of these visions, we will strategically employ the products of our visioning workshops, using the established connections of our members and staff to get them to the right eyes. We will also involve stakeholders at earlier stages of the process (e.g., at workshops) to provide their input (e.g., on what might be compelling to their organization and the taxpayers), as well as to raise awareness of the issues and the opportunities.

To raise awareness of the importance of computing research to the nation, and the CCC’s role in fostering that research, Council members and staff will continue our program of government visits and our bi-annual DC symposium on *Computing Research: Addressing National Priorities and Societal Needs*, which also serves as an important medium for informing, inspiring, and engaging early career researchers.

To this end, CCC will prioritize the following items from the Communication, Engagement and Outreach Plan (Increase Engagement), which will be further fleshed out in the Implementation Plan:

- Build network of agency contacts
- Create a CCC “strike” team – people whom the CCC can call on to speak on behalf of the computing research community in DC, as needed
- Have regular schedule of agency fly-ins

4. Inculcate values of leadership and service by the computing research community.

CCC seeks to develop leadership at many levels—including the experiences of CCC Chair and Vice Chair, Executive Committee, and Council—by exposing people to opportunities and best practices. CCC’s workshops give their co-leaders experience synthesizing larger visions and communicating with stakeholders about them. Workshop attendees have the opportunity to observe, and contribute to, that synthesis and dissemination process. Co-authoring CCC whitepapers provides similar leadership value in reflecting on the larger picture. Workshops and whitepapers have proven to be effective gateways to CCC council membership over the past half dozen years.

In collaboration with CRA Government Affairs, CCC co-runs the *Leadership in Science Policy Institute (LiSPI)*, which educates computing researchers about how science policy in the U.S. is formulated and how our government works.

CCC is mindful that inculcating leadership may take resources away from research visioning. Nevertheless, in CCC’s opinion, judicious work here is an investment that will contribute to the catalysis and dissemination of future research visions.

To this end, CCC will prioritize the following items from the Communication, Engagement and Outreach Plan (Broaden Participation), which will be further fleshed out in the Implementation Plan:

- Encourage “learn about the CCC” lunches and roundtables
- Reach out to a broader set of institutions
- Broaden participation of under-represented populations

*5. Inform and **influence early career researchers to engage** in these community-led research challenges.*

This is a special case of the previous goal since it applies to researchers who are before or just after tenure (or the equivalent in industry). It is an even longer-term investment, with potentially larger long-term impact. In summer 2018, CCC ran an *Early Career Research Symposium* that brought together 73 people from 57 institutions, offering them career advice, information about the mechanics of government support of computing research, and the opportunity to connect with one another. Funds for this activity came from one-time CI Fellow funding that was allocated to support the academic careers of PhD students following the 2008 downturn. Without this money, CCC must reflect on whether future ECR Symposia will be judicious.

While the CCC may not specifically hold activities targeted at Early Career Researchers, we will continue to work with early career researchers, as indicated in the Communication, Engagement and Outreach Plan (Broaden Participation), which will be further fleshed out in the Implementation Plan:

- Include more junior researchers in CCC visioning workshops

In summary, this strategic plans seeks to build and expand on CCC successes to fulfill its mission *to catalyze the computing research community and enable the pursuit of innovative, high-impact research.*

The organizational structure within which this plan will be operationalized is as follows:

- (a) Chair with a two-year term and a Vice Chair—who is also prospective Chair—with an aligned two-year term. The Past Chair continues for one year following his or her term to provide continuity. The Chair and the Vice Chair are paid a fraction of their academic year salary.
- (b) Director, Senior Program Associate, Program Associate, and part-time use of CRA staff. Staff are paid and do not have terms. Additional staff may be added as activities and demands warrant.
- (c) Executive Committee including the Chair, Vice Chair, Past Chair, Director, CRA Executive Director and approximately three Council Members are appointed annually by leadership
- (d) A council of approximately twenty members from the research community who serve in staggered three-year terms. Members are selected by the Nominations Committee following an open nomination process and input from many sources, including professional societies, NSF, and CRA. Council members are not paid.

In CCC's experience, this structure is effective in creating synergy between council members—who are experienced and well-connected researchers—with gifted staff that can support and sustain their efforts.

The CCC will create a correlating Implementation Plan which will flesh out how these priorities will be outcomes will be achieved over the coming three years.