COMPUTING COMMUNITY CONSORTIUM & NATIONAL SERVICE MORE GENERALLY

Mark D. Hill

CCC Chair

University of Wisconsin-Madison

November 2019

Outline

- **A Mega Success: CCC/AAAI AI Roadmap**
- **About the CCC**
- **Getting Involved: Whys & Hows**

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National Artificial Intelligence (AI) Research Institutes:
Accelerating Research, Transforming Society, and Growing the American Workforce

PROGRAM SOLICITATION
NSF 20-503

National Science Foundation

Directorate for Computer and Information Science and Engineering

Directorate for Biological Sciences

Directorate for Education and Human Resources

Directorate for Engineering

Directorate for Geosciences

Directorate for Mathematical and Physical Sciences

Directorate for Social, Behavioral and Economic Sciences

Office of Integrative Activities

Anticipated Type of Award: Standard Grant or Cooperative Agreement

Estimated Number of Awards: 9 to 14

NSF plans to make 1-6 Institute Awards and approximately 8 Planning Grants.

Anticipated Funding Amount: $24,000,000 to $124,000,000

National Institute of Food and Agriculture

Department of Homeland Security, Science & Technology Directorate

U.S. Department of Transportation, Federal Highway Administration

U.S. Department of Veterans Affairs

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The 2019 update to the National Artificial Intelligence Research and Development Strategic Plan, informed by visioning activities in the scientific community as well as interaction with the public, identifies as its first strategic objective the need to make long-term investments in AI research in areas with the potential for long-term payoffs in AI. This funding opportunity seeks to enable such research through a set of new AI Research Institutes.

USDA

National Institute of Food and Agriculture

Department of Homeland Security, Science & Technology Directorate

U.S. Department of Transportation, Federal Highway Administration

U.S. Department of Veterans Affairs

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A 20-Year Community Roadmap for
Artificial Intelligence Research in the US

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AAAI
Association for the Advancement
of Artificial Intelligence

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https://cra.org/ccc/visioning/visioning-activities/2018-activities/artificial-intelligence-roadmap/
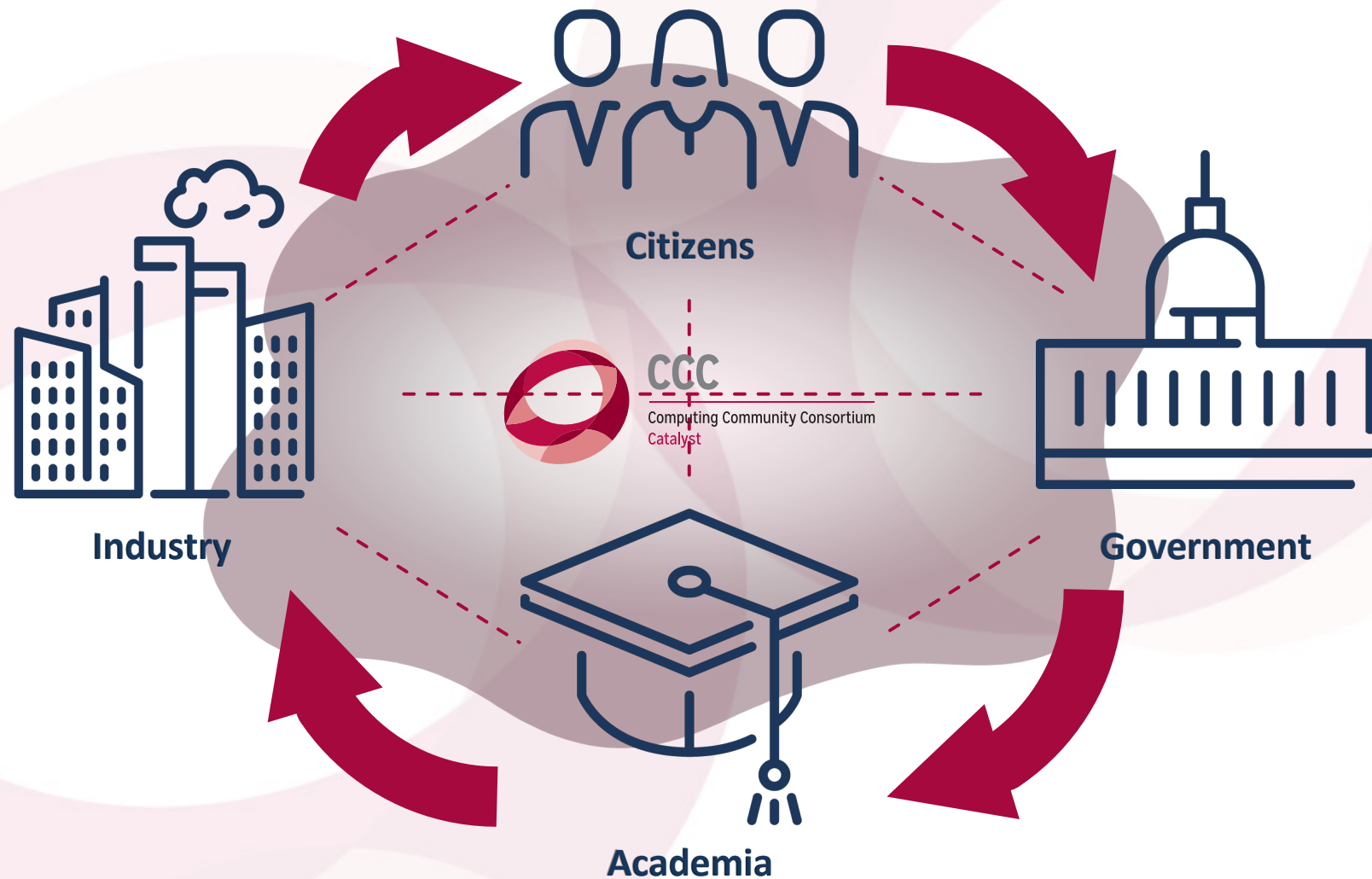
AI ROADMAP PROCESS – ONE YEAR!

- Summer 2018: CCC discusses potential Roadmap leaders with academia, government, & industrial stakeholders; selects AAAI president (Gil) & president-elect (Selman)
- Fall 2018: Co-leaders, together with AI community, design three workshops
- Nov 2018-Jan 2019: Workshops take place
- Jan 2019: Town hall at AAAI; meetings with key stakeholders
- Mar-Apr 2019: DC briefings at OSTP, NSF, DARPA, NITRD AI-IWG, DIB, and Hill with CRA
- Apr 2019: CCC and community feedback
- August 2019: final release of Roadmap
- October 2017 >$100M NSF, etc.; Expect more!
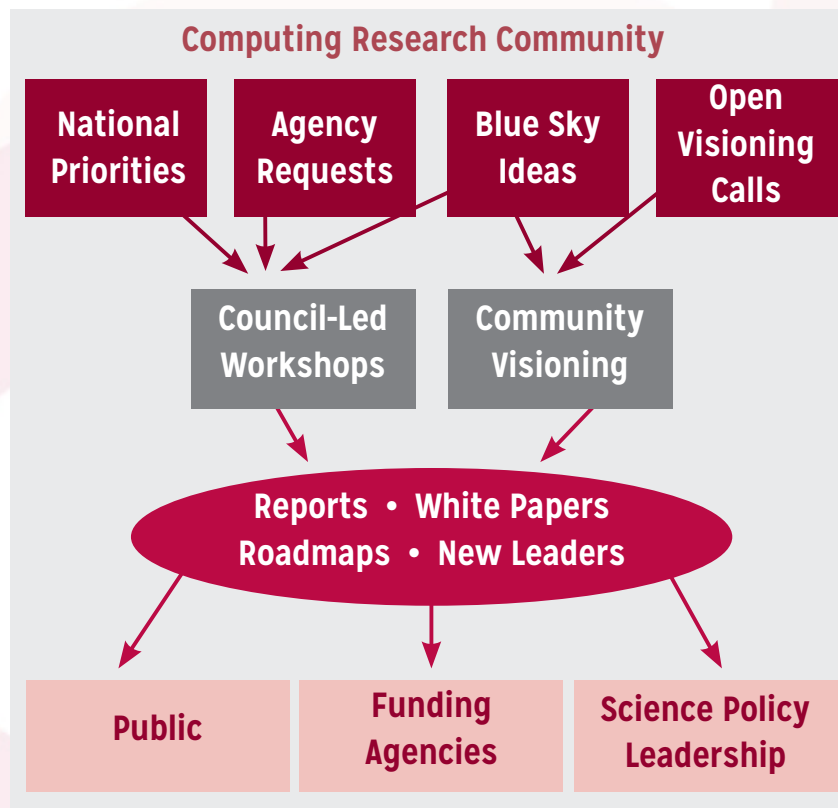
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CCC: CATALYZING I.T.'S VIRTUOUS CYCLE

Citizens

Industry

Government

Academia

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COMPUTING COMMUNITY CONSORTIUM

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

Computing Research Community

National Priorities · Agency Requests · Blue Sky Ideas · Open Visioning Calls

↓

Council-Led Workshops · Community Visioning

↓

Reports · White Papers · Roadmaps · New Leaders

↓

Public · Funding Agencies · Science Policy Leadership

Bring the computing research community together to envision audacious research challenges.

Communicate these challenges and opportunities to the broader national community.

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

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

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

THE CCC COUNCIL

Chair: Mark D. Hill
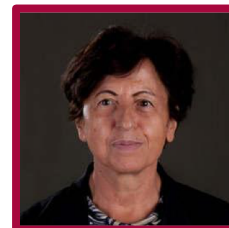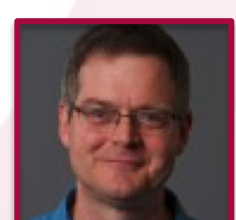Vice Chair: Liz Bradley

Terms ending June 2022
- Sujata Banerjee, VMware
- Elisa Bertino, Purdue University
- Tom Conte, Georgia Tech
- Maria Gini, University of Minnesota
- Chad Jenkins, University of Michigan
- Melanie Mitchell, Portland State University
- Katie Siek, Indiana University

Terms ending June 2021
- Ian Foster, University of Chicago
- Ronitt Rubinfeld, MIT
- Suresh Venkatasubramanian, Utah
- Daniel P. Lopresti, Lehigh University
- David C. Parkes, Harvard
- Shwetak Patel, Univ. Washington

Terms ending June 2020
- Nadya Bliss, Arizona State
- Juliana Freire, NYU
- Keith Marzullo, Maryland
- Greg Morrisett, Cornell
- Jennifer Rexford, Princeton
- Ben Zorn, Microsoft Research

CRA STAFF WITH CCC RESPONSIBILITIES
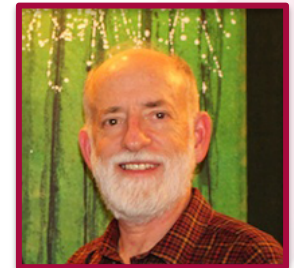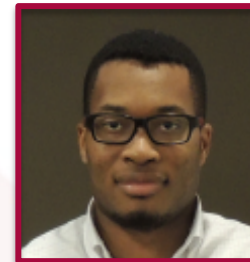
CCC Director: Ann Schwartz Drobnis

Senior Program Associate for Communication: Helen Wright

Senior Program Associate for Engagement: Khari Douglas

CRA Executive Director: Andy Bernat

Additional CRA Staff:

- Peter Harsha, Director of Government Affairs
- Sandra Corbett
- Sabrina Jacob

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WHAT DO CCC COUNCIL MEMBERS DO?

- **Participate in topical task forces & working groups**
  - Cybercrime and Cybersecurity
  - Health and Computing
  - Systems and Architecture
  - Fairness, Accountability, Disinformation, and Explainability
  - Future of the Research Enterprise
  - AI Working Group
  - Industry Working Group

- **Shepherd visioning activities**
- Engage with government agencies, industry, and sister organizations (NSF, ACM, LISPI …)
- Write white papers and blog posts
- Other requests as needed

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HOW DO I GET INVOLVED WITH CCC?

- **Serve your IT sub-community and/or the IT community**

- Join CCC workshops & white papers when invited

- Propose CCC workshops
  https://cra.org/ccc/visioning/rfp-creating-visions-for-computing-research/

- Respond to open CCC council nomination process
  https://cra.org/ccc/call-for-council-nomination/
  - Research accomplishments
  - Evidence of substantial service
  - Diversity on many dimensions:
    at most one per institution, IT sub-field, gender, etc.

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HOW DO I DO EFFECTIVE (CCC) SERVICE?

- *Lean In!*

- **Look beyond your research to broad (societal) problems**

- Don't play *Jeopardy!* – My answer ➡ what's the problem?

If we can do it, people will care 🙂 We can do (some of) it

- Look for Change – Why Now? Avoid intractable or irrelevant
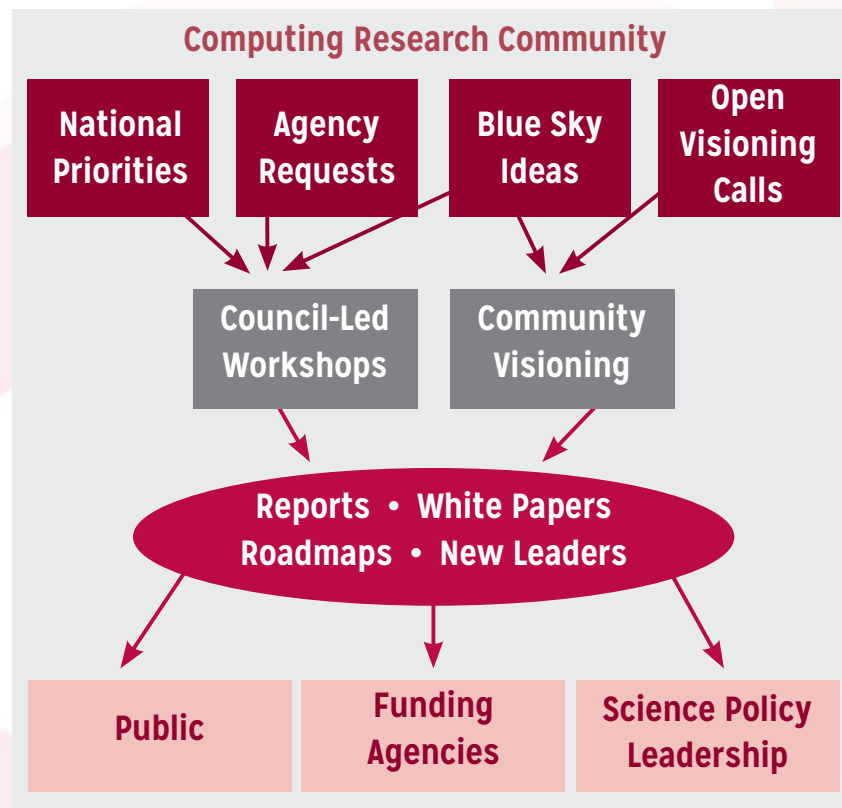
- See also the **Heilmeier Catechism**
https://www.darpa.mil/work-with-us/heilmeier-catechism

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