

THE COMPUTING COMMUNITY CONSORTIUM (CCC)

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cccblog.org



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Computing Community Consortium
Catalyst

COMPUTING COMMUNITY CONSORTIUM

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.



Who

- Council - 20 members
- Chair, VC, & Director
- CCC/CRA Staff

Inputs: Bottom-up, Internal, & Top-Down

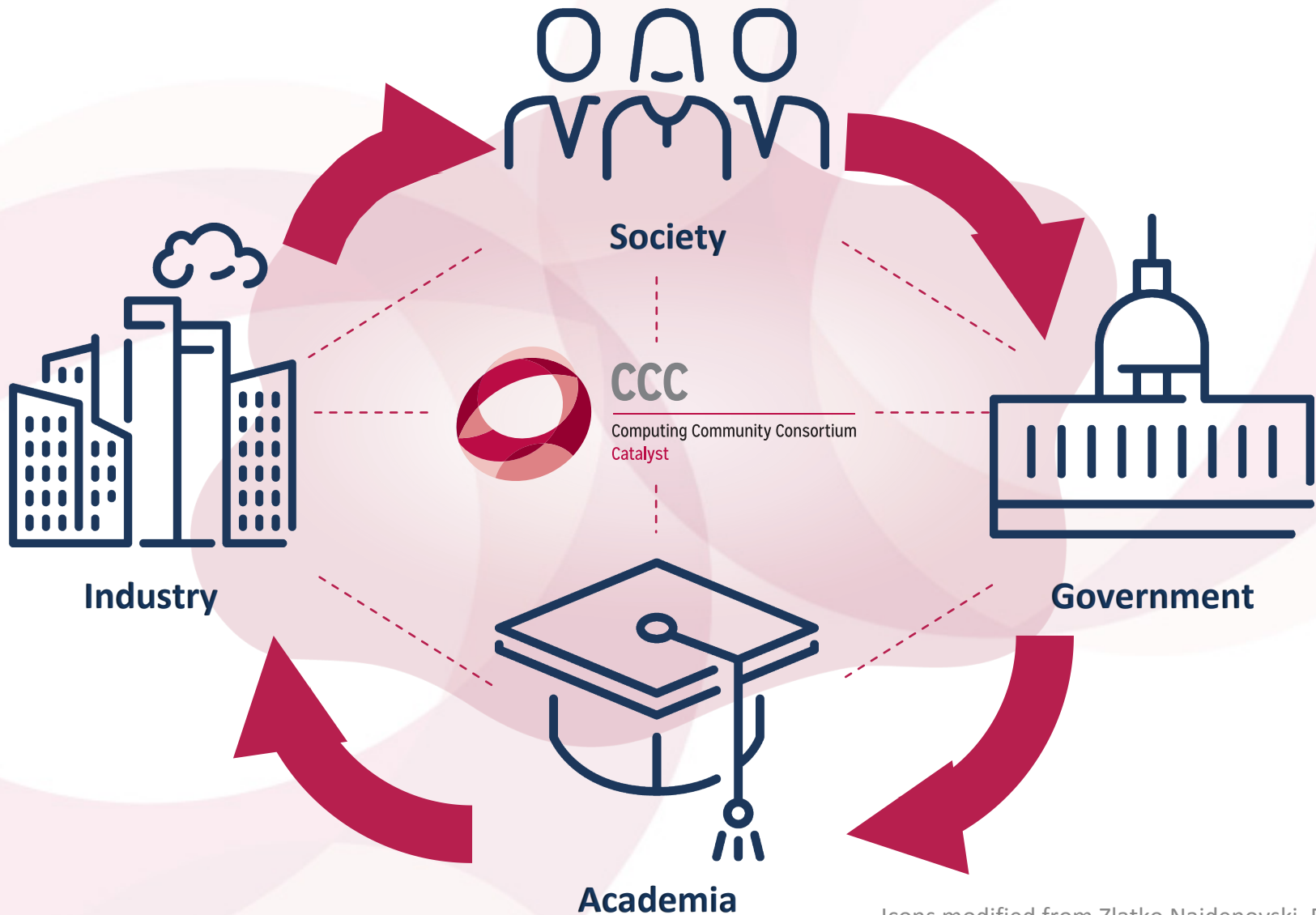
What:

- Workshops & Conf. Blue Sky Tracks
- Whitepapers & Social Media
- Reports Out (esp. to government)
- Biannual Symposium in DC

Talent Development

- Early Career Workshops & Participation
- Council Membership
- Leadership w/ Gov't (LiSPI)

THE NEED FOR AUDACIOUS RESEARCH



Icons modified from Zlatko Najdenovski, Flaticon

AN OVERVIEW OF THE COMPUTING COMMUNITY CONSORTIUM

- Established in 2006 as a standing committee of the Computing Research Association (CRA)
- Funded by NSF under a Cooperative Agreement
 - Third award began in April 2018
- Facilitates the development of a bold, multi-themed vision for computing research – and communicates this vision to stakeholders
- Led by a broad-based Council
- Staffed by CRA



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MAJOR STAKEHOLDERS

- Computing Research Community
 - CRA members
 - CSTB (Computer Science and Telecommunications Board, part of National Research Council)
 - Professional societies
 - Academic units
 - Research labs
- Industry
 - Computing industry, Major users of IT
- Public
- Government



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GOVERNMENT STAKEHOLDERS

Agencies that are particularly important to us

- NSF – strong ties with CISE
- NIH – growing ties with folks interested in Health IT
- DARPA – ties come and go
- DoE – ties with ASCR; interest in ARPA-E
- NITRD – entre to interagency working groups

Others that are relevant

- NIST
- HHS/ONC
- IARPA
- DoT



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THE CCC COUNCIL – EXECUTIVE COMMITTEE



- Members:
 - Mark Hill, University of Wisconsin, Madison (Chair)
 - Liz Bradley, University of Colorado Boulder (Vice Chair)
 - Nadya Bliss, Arizona State University
 - Dan Lopresti, University of Lehigh
 - Beth Mynatt, Georgia Tech (Past Chair)
 - Ben Zorn, Microsoft Research
 - Ann Drobnis, Director
 - Andy Bernat, CRA Executive Director



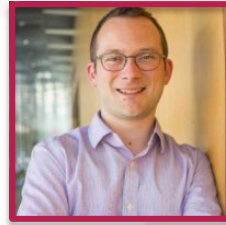
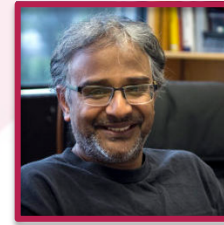
THE CCC COUNCIL

Chair: Mark Hill

Vice Chair: Liz Bradley

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
- Manuela Veloso, Carnegie Mellon
- Ben Zorn, Microsoft Research



Terms ending June 2019

- Sampath Kannan, UPenn
- Maja Mataric, USC
- Elizabeth Mynatt, Georgia Tech
- Nina Mishra, Amazon
- Holly Rushmeier, Yale
- Kevin Fu, Univ. Michigan



CCC TASK FORCES

Goal is for CCC to be **engaged in ongoing activities** around these topics, to **identify needs and opportunities** in each topic area, and to **take actions** (generating white papers, convening a workshop, publicizing information, etc.) that have the possibility of “moving the needle” for these topics.

Task forces, which include Council members and others from the community, meet on a regular basis and report at every Council meeting.

- Cybersecurity and Cybercrime
- Health and Human Computer Interaction
- Information Integrity and Provenance
- Intelligent Infrastructure
- Fairness and Accountability
- Systems and Architecture
- Industry Working Group: Transportation
- AI Roadmap Working Group

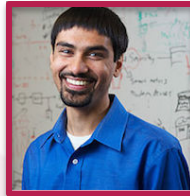
HEALTH AND HUMAN COMPUTER INTERACTION TASK FORCE

Chair: Maja Matarić and Shwetak Patel

Maja Matarić
University of
Southern
California



Shwetak Patel
University of
Washington



Current Members:

**Keith
Marzullo**
University
of Maryland



**Beth
Mynatt**
Georgia
Tech



**Holly
Rushmeier**
Yale



Nina Mishra
Amazon



Recent Activities:

- Response to NITRD draft Federal Health Information Technology Research and Development Strategic Framework

Upcoming Activities:

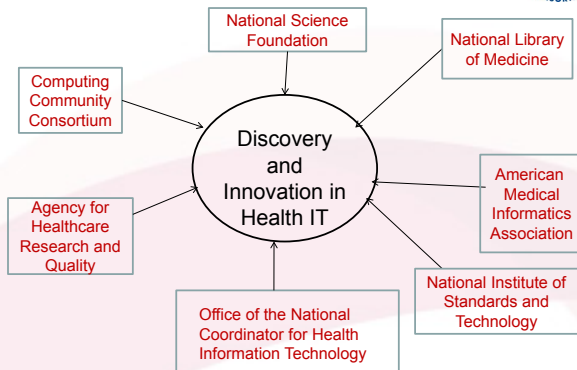
- Working on content creation for training (future of work)
- Developing potential workshops such as opioid use and eldercare

White Papers:

- *Information Technology Research Challenges for Healthcare: From Discovery to Delivery*
- *Trans-NIH/Interagency Workshop on the Use and Development of Assistive Technology for the Aging Population and People with Chronic Disabilities*

IMPACT: HEALTH IT

October 2009 Workshop



National Science Foundation
WHERE DISCOVERIES BEGIN

Directorate for Computer & Information Science & Engineering

SMART HEALTH AND WELLBEING (SHW)

CONTACTS

See program guidelines for contact information.

SYNOPSIS

Smart and Connected Health (SCH)

PROGRAM SOLICITATION

NSF 13-543

REPLACES DOCUMENT(S):

NSF 12-512



National Science Foundation

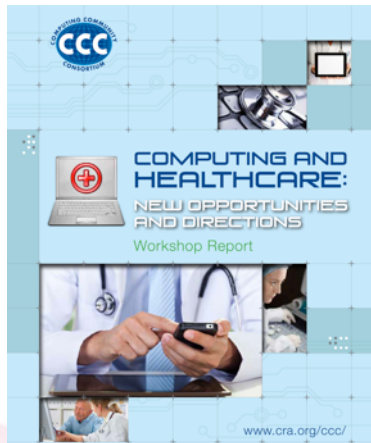
Directorate for Computer & Information Science & Engineering
Division of Computing and Communication Foundations
Division of Computer and Network Systems
Division of Information & Intelligent Systems

Directorate for Engineering

Directorate for Social, Behavioral & Economic Sciences



National Institutes of Health



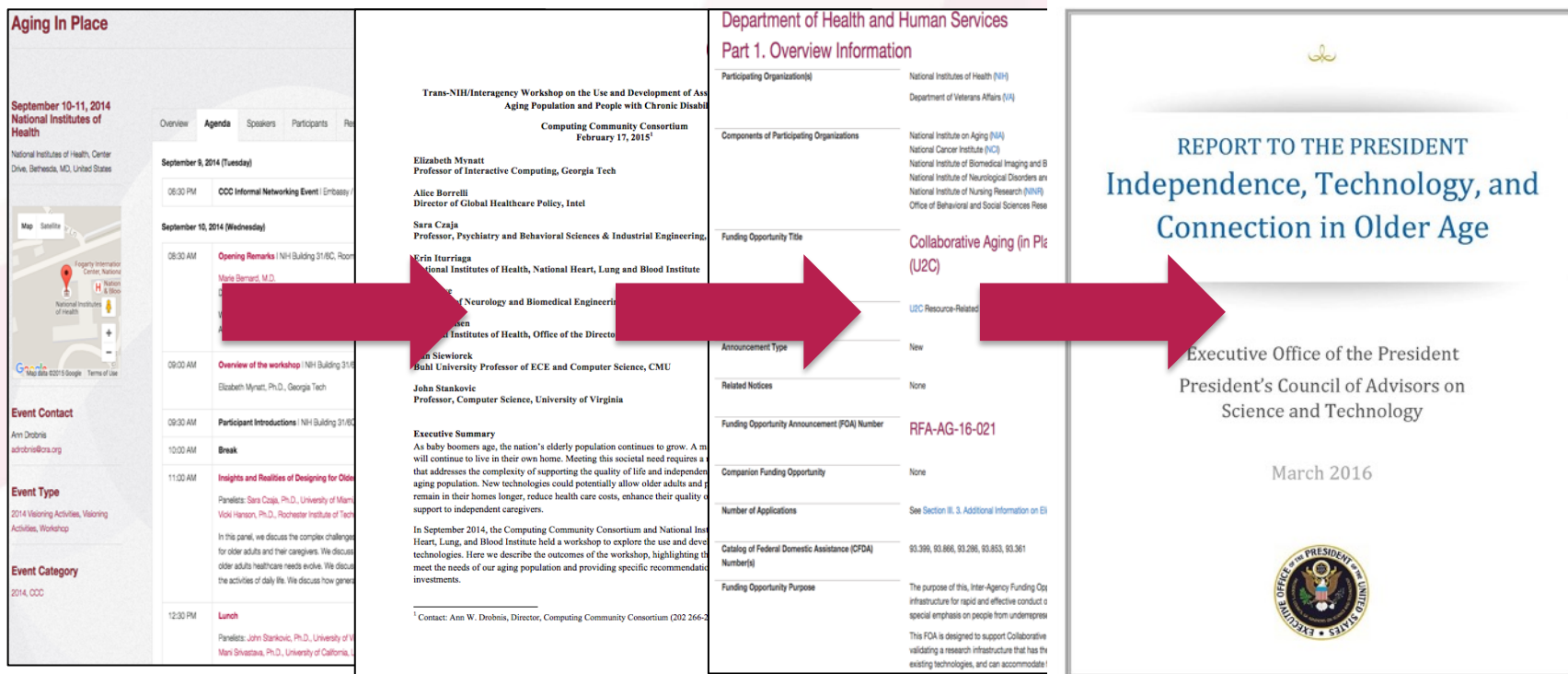
October 2012 Workshop



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IMPACT: AGING IN PLACE



Joint NIH/CCC
Meeting
September
2014

Produced
Workshop
Report
February
2015

NIH released
new RFP
informed by
AIP Workshop
October 2015

PCAST Report
March 2016



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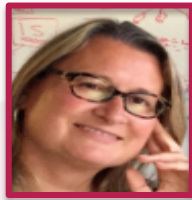
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ARTIFICIAL INTELLIGENCE ROADMAP WORKING GROUP

Chairs: Yolanda Gil and Bart Selman

Yolanda Gil

University of
Southern
California



Bart Selman

Cornell
University



Recent Activities:

- New Working Group!

Upcoming Activities:

- 3 Community Workshops:
 - Integrated Intelligence
 - Interactions
 - Learning and Robotics
- AI Roadmap draft next Spring

Current Members:

Liz Bradley

University of
Colorado,
Boulder



Maja Matarić

University of
Southern
California



Nina Mishra

Amazon



David Parkes

Harvard
University



RELATED WORK – COMMUNITY VISIONING WORKSHOPS

- Fair Representations and Fair Interactive Learning (2018)
- Discovery and Innovation in Smart and Pervasive Health (2016)
 - Holistic Sensing: wearable, environmental, behavioral, social network, ...
 - Systems that incorporate input from participants, patients, providers, caregivers
 - Standard Architectures for Device and Data Integration
 - Collaboration
- AI for Social Good, Health (2016)
 - Cross Disciplinary Training
 - Privacy
 - Learning Health Systems
- Promoting Strategic Research on Inclusive Access to Rich Online Content and Services (2015)
 - Partnerships
- Aging in Place (2014)
 - Multi-disciplinary, Multi-agency Collaborations
 - Better Understanding of the Target User
 - Actionable Evidence (Data)
 - Testbeds



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RELATED WORK – COMMUNITY WHITE PAPERS

- Toward a Science of Autonomy for Physical Systems: Healthcare (2015)
 - Healthcare as a Service Industry: companion, optimized time, optimized treatment
 - Shift Care to Home
 - HRI sensitive to physical and mental capabilities
 - Flexible Manipulation Capabilities
 - Model and Understand Complex Tasks
- Toward a Science of Autonomy for Physical Systems: Service (2015)
 - Intelligent Appliances
 - Assisted Living
 - Personal Wellbeing
 - Personal Mobility



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RELATED WORK

AI Roadmap

- 3 Workshops, Listening Sessions
 - Integrated Intelligence
 - Interaction
 - Learning and Robotics
- Community Report, due Spring 2019



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