The National Science Foundation
Directorate for Computer and Information Science and Engineering Advisory Committee (CISE AC)
Advisory Committee Meeting Minutes

May 2, 2008

The National Science Foundation's Directorate for Computer and Information Science and Engineering Advisory Committee (CISE AC) held their spring meeting via teleconference from the National Science Foundation in Arlington, Virginia on May 2, 2008.

Opening Remarks

Dr. Richard Karp, Chair, called the meeting to order at 11:00 a.m. The minutes from the October 19, 2007 CISE AC meeting were approved.

NSF and CISE Updates and Discussion

Dr. Wing provided an overview on the state of NSF and CISE; her remarks presentation can be found in Appendix 2. Dr. Wing also provided an overview of the subcommittee reports and breakout session groups (Humans+Computers (aka Human-in-the-Loop); Cyber-Physical Systems; IT and Sustainability; and Community Stewardship) that would later report out to the full CISE AC.

Update on CCC

Dr. Ed Lazowska, Chair of the Computing Community Consortium (CCC), provided an update on CCC activities. He noted the Google/IBM/NSF program and the evolving Cyber Physical Systems agenda as examples of areas in which the CCC was having impact. On the subject of network science and engineering, he noted that the CCC/NetSE Council is planning a number of 2008 workshops focused on network science, behavioral economics, network design, societal values and web science. Lastly, the CCC is organizing a 20 year celebration of CISE and computing research outcomes.

Reports from the CISE AC Subcommittees

Beating the Bushes
Dr. Karp reported for the group. He enumerated reasons why people may or may not take positions with NSF. While there are many advantages, the high workload and lack of visibility in the field are seen as barriers.

Broadening Participation
Dr. Jan Cuny, Program Director in the CNS division, described the work of the AC subcommittee on broadening participation in computing, noting that the group is working on a strategic plan. She briefly discussed the scope of the BPC (it includes the entire pipeline of education) and identified strategies to broaden participation including attracting and retaining more persons with disabilities into computing careers. Dr. Cuny stated that 64 action items were identified by the subcommittee. The subcommittee plans to share their draft plan with the CISE AC at the next meeting.

Education
Dr. Harriet Taylor, Program Director in the CNS division, reported on activities of the Education subcommittee, which can be found in Appendix 2.

Industry Subcommittee
Dr. Frederica Darema, CISE Senior Science Analyst, reported on activities of the Industry Subcommittee, which can be found in Appendix 2.

Meeting with NSF Director and Reporting from the Four Break-out Groups

Dr. Arden Bement, Jr., Director, NSF, met with the CISE AC. Dr. Bement updated the group on the NSF 2008 and 2009 budgets and discussed the FY 2010 budget situation in light of the transition to a new Administration. NSF will be actively engaged with the new Administration's transition team.

Discussion:
- Dr. Bement was asked about his sense of how things are going at NSF and within CISE. Dr. Bement said Dr. Wing already has done an enormous service to NSF as the AD of CISE. Due to the volume of proposals received, and CISE receives a higher volume than most other Directorates, NSF is looking at several ways to manage this including spacing out solicitations to occur every 2-3 years (instead of annually) and balancing the ratio of solicited and unsolicited proposals.
- Dr. Karp said CISE is blazing new trails under the direction of Dr. Wing. The new Google/IBM/NSF program on data-intensive computing will be a very important model for future activities. The scientific emphases discussed in the AC break-out groups were also acknowledged.
- Dr. Bement said NSF will continue to encourage interdisciplinary research and ways to encourage more transformative research with convergence where whole new fields of research and science are emerging. Members of the AC noted that anything NSF can do to help soften the rigidity in university departmental structures would help. Dr. Wing said some universities are encouraging interdisciplinary research and create promotion committees that draw from the different disciplines. Others discourage faculty from engaging in interdisciplinary research until they are tenured. CISE is working on a best practice document on managing interdisciplinary research. Across each of the CISE divisions, there are a number of Program Officers that welcome cross-disciplinary proposals in SGER and CAREER.

Reports from the Humans+Computers, Cyber-Physical Systems, Rethinking Software and Stewardship of the Community break-out groups can be found in Appendix 2.

Emerging Scientific Opportunities in CISE
Dr. Wing reviewed emerging scientific opportunities. Topics included Science and Engineering beyond Moore's Law, Adaptive Systems Technology, Human+Computer Partnerships and IT and Sustainability. Dr. Wing's presentation may be found in Appendix 2.

Final Discussion and Remarks
CISE AC members were given the opportunity to make final remarks/questions. The group applauded Dr. Wing for her energy in running the Directorate.

With no further discussion, Dr. Wing thanked the CISE AC members for their participation. The meeting was adjourned at 5:40 p.m.

Summary of May 2, 2008 Action Items

- Alan Kay volunteered to be the CISE AC liaison to the NSF Environmental Research and Education Advisory Committee (ERE AC).

- The Broadening Participation Subcommittee will refine and sort through the actions items identified, hold 2-4 teleconferences with members, and produce a draft plan to share with the CISE AC at the next meeting.

Appendix 1 - ATTENDEES

Members Present:
Richard M. Karp, Chair, Electrical Engineering & Computer Science, Univ. of California at Berkeley, CA
Alfred V. Aho, Department of Computer Science, Columbia University, New York, NY
Brian Blake, Department of Computer Science, Georgetown University, Washington, DC
Randal Bryant, Computer Science, Carnegie Mellon University, Pittsburgh, PA
Vinton Cerf, Chief Internet Evangelist, Google, Herndon, VA
Andrew A. Chien, Vice President, Corporate Technology Group, Intel Research, Hillsboro, OR
David Clark, Computer Science & Artificial Intelligence, MA Institute of Technology, Cambridge, MA
Jorge Diaz-Herrera, Computing & Information Sciences, Rochester Institute of Technology, Rochester, MN
Stuart Feldman, Vice President, Engineering, Google, New York, NY (ACCI liaison)
Stephanie Forrest, Department of Computer Science, University of New Mexico, Albuquerque, NM
Yolanda Gil, Information Sciences Institute, University of Southern California, Marina del Rey, CA
Dwight Gourneau, President, NAMTech, Inc., Rochester, MN
Alan Kay, President, Viewpoints Research Institute, Glendale, CA
Richard Ladner, Department of Computer Science, University of Washington, Seattle, WA
Andrea Lawrence, Department of Computer Science, Spelman College, Atlanta, GA
Henrique Malvar, Director of Research, Microsoft Corporation, Redmond, WA
Greg Morrisett, Harvard University, Cambridge, MA
Robin R. Murphy, Cognitive and Neural Sciences, University of South Florida, Tampa, FL
Don Norman, Northwestern University (retired), Palo Alto, CA
Melissa O'Neill, Computer Science, Harvey Mudd College, Claremont, CA
* Cherri Pancake, School of Electrical Engineering & Computer Science, Oregon State University, Corvallis, OR
(ENG AC liaison)
Martha E. Pollack, College of Engineering, University of Michigan, Ann Arbor, MI
David Tennenhouse, New Venture Partners
Margaret Wright, Computer Science Department, New York University, New York, NY
Ellen W. Zegura, College of Computing, Georgia Institute of Technology, Atlanta, GA

Members Absent:
Annie Anton, North Carolina State University College of Engineering, Raleigh, NC
Andrea C. Arpaci-Dusseau, Computer Science Department, University of Wisconsin, Madison, WI
Marc Snir, Department of Computer Science, University of Illinois Urbana-Champaign, Urbana, IL
* Douglas Arnold, Director, Institute for Mathematics and Applications, Univ. of Minnesota, Minneapolis, MN (MPS AC liaison)

* Liaisons from Other NSF Advisory Committees

CISE Staff Present:
Jeannette Wing, Assistant Director, CISE
Deborah Crawford, Deputy Assistant Director, CISE
Michael Foster, Division Director, Computing and Communication Foundations (CCF)
Suzi Iacono, Senior Science Advisor
Rita Koch, Staff Associate
Richard Sheehey, Jr. Project Specialist

Invited Guests:
Ed Lazowska, Chair, Computing Community Consortium (via phone)
Susan Graham, Vice Chair, Computing Community Consortium (via phone)

Appendix 2

[State of NSF and CISE - Part 1](#)

[Reports from Education and Industry Subcommittees](#)

[CISE New Initiatives](#)

[Humans + Computers - Report from Break-out Group](#)

[Cyber-Physical Systems Exec Summary - Report from Break-out Group.pdf](#)

[Rethinking Software - Report from Break-out Group](#)

[Stewardship of the Community](#)