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

May 10 - 11, 2012

National Science Foundation
4201 Wilson Boulevard
Arlington, VA 22230

MEETING SUMMARY

The spring meeting of the National Science Foundation's Directorate for Computer and Information Science and Engineering's Advisory Committee (CISE AC) was held at the National Science Foundation on May 10 - 11, 2012.

Thursday, May 10, 2012

Welcome and Review of Agenda

Drs. Jennifer Rexford and J Strother Moore, CISE AC Co-Chairs, opened the meeting at 1:03 p.m., welcoming participants physically present as well as those participating virtually. AC members introduced themselves. A list of attendees can be found in Appendix I.

CISE Overview and Update

Dr. Farnam Jahanian, CISE Assistant Director, provided an update on NSF and CISE activities since the last meeting held in November, with a focus on the NSF FY2013 budget request. CISE AC members sought clarification on OneNSF investments.

Slides from Dr. Jahanian's presentation are posted on the CISE website.

Working Group Discussions

Breakthrough Proposals: Dr. Susan Landau led the discussion for Breakthrough Proposals. She reported that defining "breakthrough" continued to pose a challenge. The working group suggested that the community should be involved in helping to identify areas for potential breakthroughs (*e.g.*, via Computer Science and Telecommunications Board small studies, workshops, and reports) and that breakthrough work could be encouraged by rewarding risk (*e.g.*, an award for "Thinking Big, Thinking New" before the research has proved itself, awarding a small number of projects that propose risky work, hosting "A Day of Challenge" that showcases talks at NSF that is by invitation-only with high-power attendees, and also webcast - modeled on TED talks/National Academies Kavli talks).

Dr. Howard Wactlar, IIS Division Director and liaison to the working group, presented recommendations for the NSF process (*e.g.*, solicitation formulation, reviews, panels, and management). As solicitations are formed, breakthrough research should be welcomed at all levels (small, medium, and large), be supported over a longer time (approximately five years), and Principal Investigators should self-identify work as breakthrough and provide supporting evidence.

Encouraging Service at NSF: Dr. Eric Horvitz led the discussion for Encouraging Service at NSF. In addition to summarizing challenges to encouraging service, viewpoints from previous rotators were presented. Much of the discussion was centered on means to elevate the prestige of being a rotator at NSF (*e.g.*, enlist the help of the Computing Research Association/Computing Community Consortium, CRA/CCC, publish testimonials) and other incentives to encourage service (*e.g.*, attention, honor, scholarship).

Open Access Overview

Dr. Myron Gutmann, Assistant Director for the Directorate for Social, Behavioral, and Economic Sciences, provided an overview of open access. He defined open access, provided some history and recent activities for open access, and posed considerations for NSF. AC members discussed feasibility of data storage, privacy, and issues related to creative commons.

Discussion with Tom Kalil, Deputy Director for Policy, OSTP and Special Assistant to the President for Economic Policy

Tom Kalil discussed the impact of Information Technology (IT) for advancing all areas of science and engineering, economic growth, and addressing major national priorities. He mentioned interagency collaborative efforts in IT such as the National Robotics Initiative, Big Data, Materials Genome Initiative, cybersecurity, and networking to include not only broadband but also testbeds for software defined networks. Computer science education, cyberlearning, as well as industry and university research were also discussed. AC members also engaged in a conversation about the impact of computing and IT research and the alignment of CISE investments with national priorities.

Friday, May 11, 2012

Working Group Discussions *(Continued)*

Update on Innovative Panel Practices: Dr. Keith Marzullo, CNS Division Director, provided an update on pilots used by CISE for asynchronous panels and stated that the goal is to pilot ten panels. Discussion focused on getting reviews well in advance of the panel.

CISE Program Updates

Dr. Wactlar provided an overview and update on the National Robotics Initiative.

Dr. Marzullo discussed Major Research Infrastructure efforts across CISE and NSF. There was great interest in making the overview slides available to the community and, in general, to have broader community outreach.

Dr. Susanne Hambrusch, CCF Division Director, provided an overview and update on the Graduate Research Fellowships (GRF) program. Discussion from the AC focused on how to increase the number and quality of the applications for CISE disciplines. A Dear Colleague Letter (DCL) from the AC to the entire CISE community was one suggested option.

Meeting with NSF Director and Deputy Director

Dr. Subra Suresh, NSF Director, and Dr. Cora Marrett, NSF Deputy Director, noted CISE's increasing intersections with many different directorates and other agencies, the many activities that have recently been launched have strong CISE engagement, and stated that there is continued and strong commitment to support basic computer science research. Dr. Suresh provided a brief update on the NSF budget. Co-chairs from the CISE AC working groups summarized their groups' discussions about how to encourage breakthrough proposals, virtual panels, and encouraging service at NSF. There was also discussion about open access, online and collaborative learning, and engaging the CISE community in the GRF program.

Closing Remarks and Wrap Up

The AC members approved the minutes from the May 2012 meeting conditionally upon removal of Susan Landau as in attendance.

Dr. Jahanian sincerely thanked those AC members who had served the past three to four years and whose service was ending, noting appreciation for their contributions and engagement with the community: Anant Agarwal, Michelle Effros, Julian Goldman, Bruce Hajek, Eric Horvitz, Charles Isbell, Jon Kleinberg, Susan Landau, Maja Mataric, Greg Morrisett, Andrew Ng, Keshav Pingali, and William Weihl).

The meeting adjourned at 2:08 p.m.

Appendix 1

ATTENDEES

NAME	AFFILIATION

Members Present:

Dr. Henrik Christensen	Georgia Institute of Technology
Dr. Teresa Dahlberg	College of Computing and Informatics, University of North Carolina, Charlotte
Dr. Michelle Effros	Department of Electrical Engineering, California Institute of Technology
Dr. Jose Fortes	Department of Electrical and Computer Engineering, University of Florida
Dr. Julian Goldman	Massachusetts General Hospital (present May 10 only)
Dr. Bruce Hajek	Computer and Systems Research Laboratory, University of Illinois, Urbana - Champaign
Dr. Eric Horvitz	Adaptive Systems and Interaction Group, Microsoft Research
Dr. Charles Isbell	College of Computing, Georgia Institute of Technology
Dr. Jon Kleinberg	Department of Computer Science, Cornell University
Dr. James Kurose	Department of Computer Science, University of Massachusetts Amherst
Dr. Susan Landau	Radcliffe Institute for Advanced Study, Harvard University
Dr. James Landay	Department of Computer Science and Engineering, University of Washington
Dr. Maja Mataric	Computer Science Department, University of Southern California (telecom)
Dr. J. Strother Moore	AC Co-Chair; Department of Computer Science, University of Texas, Austin
Dr. Keshav Pingali	Department of Computer Science, University of Texas, Austin
Dr. Jennifer Rexford	AC Co-Chair; Department of Computer Science, Princeton University
Dr. Stefan Savage	Department of Computer Science and Engineering, University of California, San Diego (telecom)
Dr. Robert Schnabel	School of Informatics and Computing, Indiana University

Members Absent:

Dr. Anant Agarwal	MIT Computer Science and Artificial Intelligence Lab, Cambridge, MA
Dr. Jaime Carbonell	School of Computer Science, Carnegie Mellon University
Dr. Juan Gilbert	Human-Centered Computing Division, Clemson University
Dr. Greg Morrisett	School of Engineering & Applied Sciences, Harvard University
Dr. Andrew Ng	Computer Science Department, Stanford University
Dr. William Weihl	Facebook, Inc.