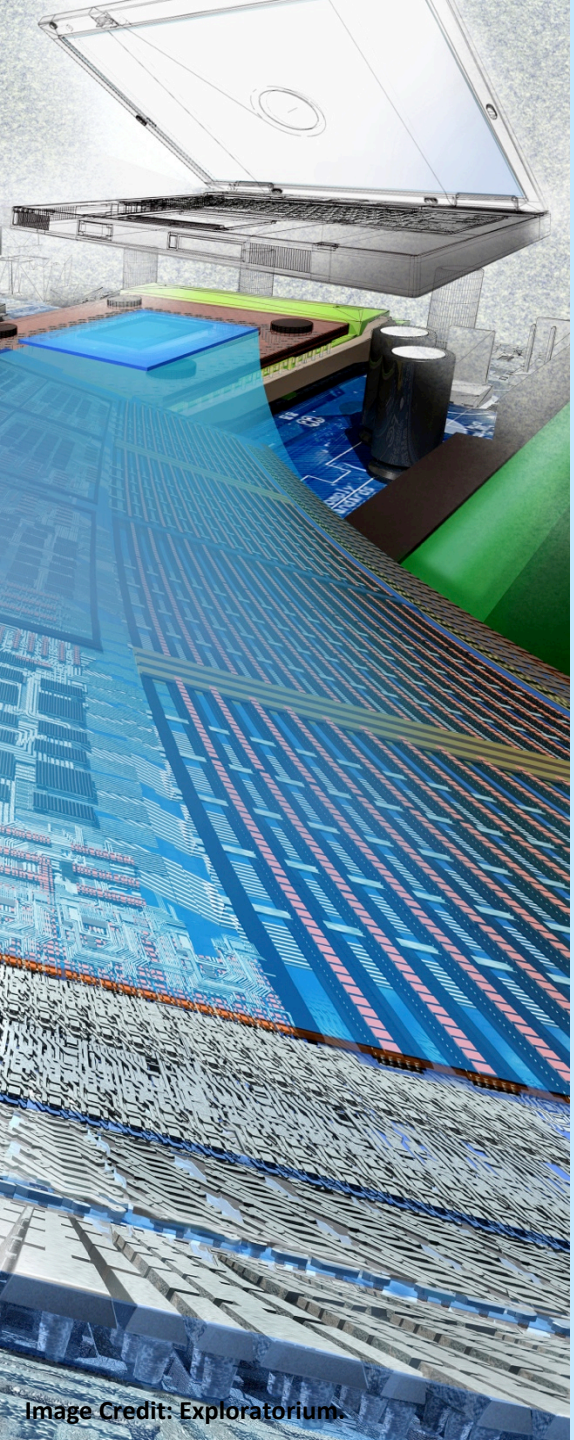


Image Credit: Exploratorium.

Welcome, a Brief NSF CISE Overview, and a Few Words of Advice

Jim Kurose

Computer & Information Science & Engineering

NSF CISE Career Workshop

March 2015

Welcome!

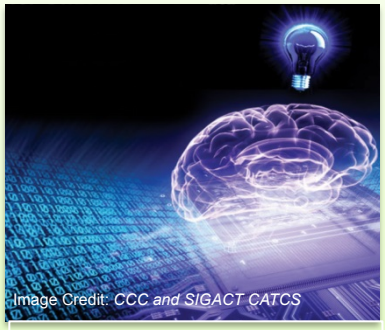
… we're *very* glad you're here!

… thank you for coming!

CISE's Economic and Societal Context

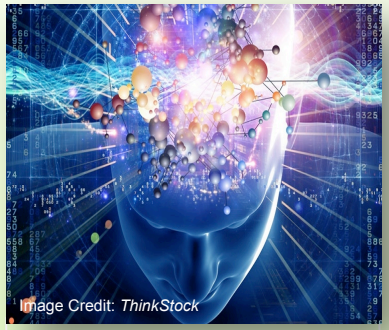
- CISE is at the center of an ongoing, long-term societal transformation
- Advances in computing, communications, information technologies, cyberinfrastructure:
  - underpin economic prosperity, national security
  - drive U.S. competiveness and sustainable economic growth
  - accelerate the pace of discovery and innovation
  - are crucial to achieving national and societal priorities, including education and workforce development

Computing Frontiers, National Priorities



From Data to Knowledge to Action

Manufacturing, Robotics, & Smart Systems

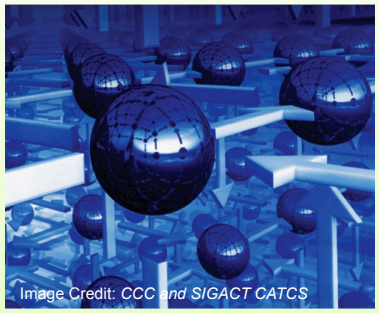


Understanding the Brain

Secure Cyberspace

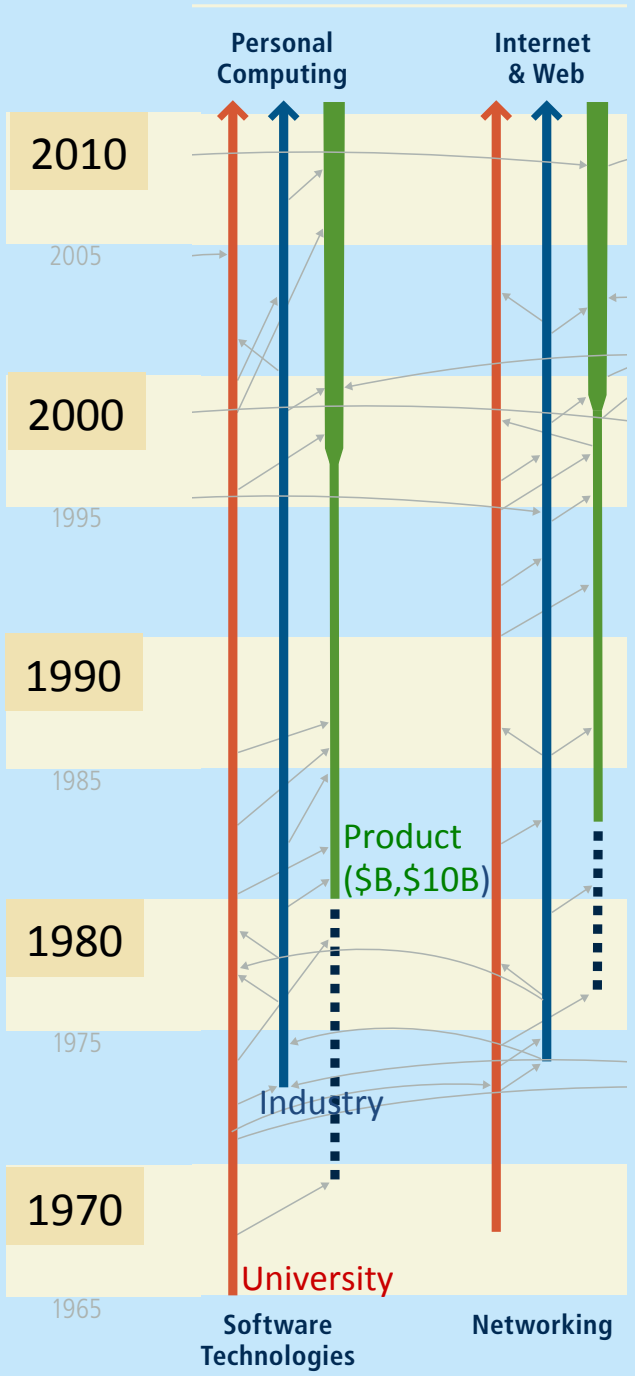
Education, Workforce Development

Augmenting Human Capabilities



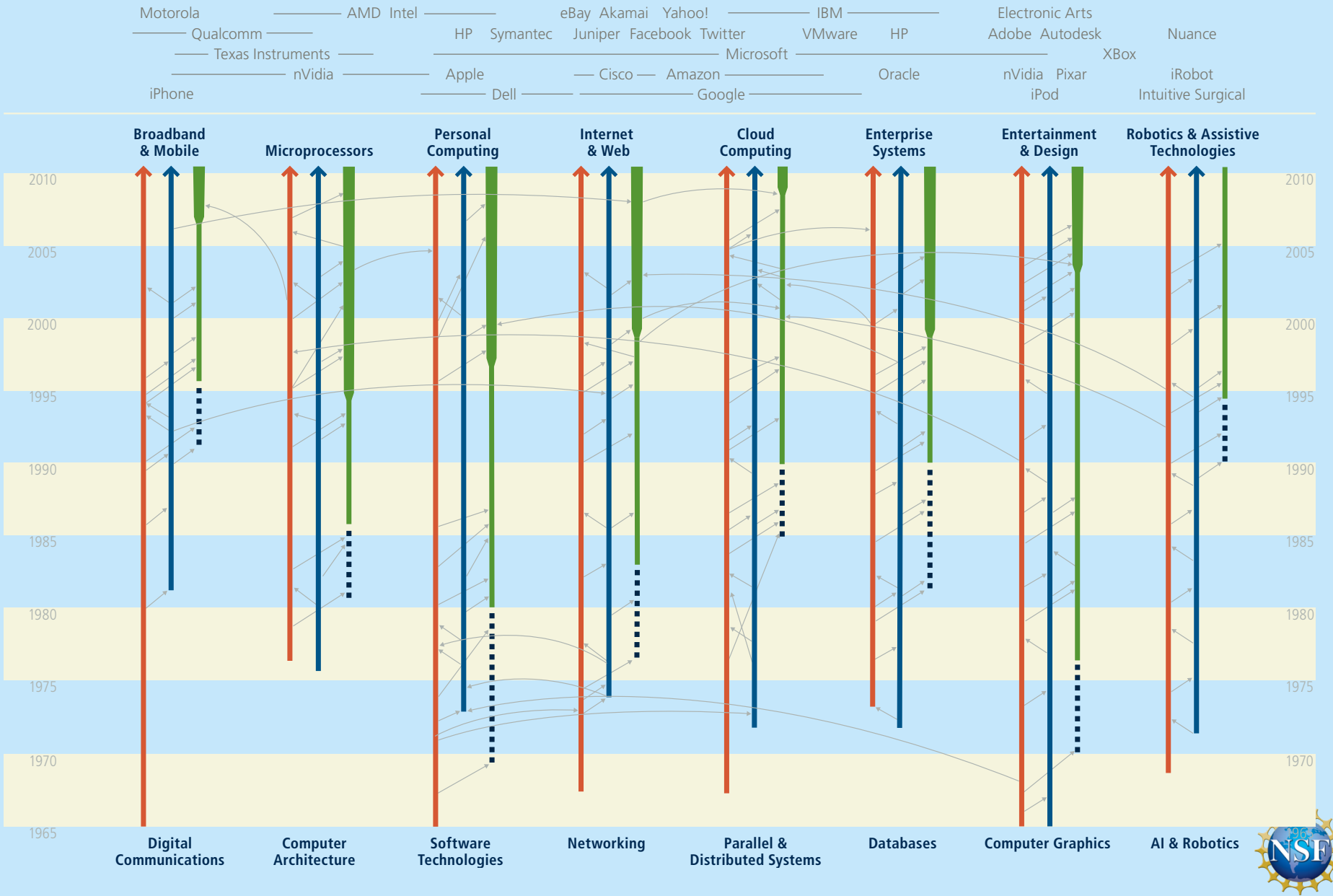
Expanding the limits of computation

From federally-funded fundamental computing research …to multi-billion dollar industries



From *Continuing Innovation in Information Technology*, NRC, 2012.

…. across many industries



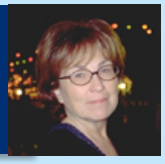
It is an
exciting, impactful and important time
to be in
computer and information science and engineering!!

CISE Organization

CISE Directorate

Jim Kurose, AD

Suzi Iacono, DAD



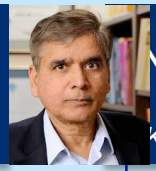
Advanced Cyberinfrastructure (ACI)

Irene Qualters, DD

- Data
- High Performance Computing
- Networking/ Cybersecurity
- Software

Computing and Communications Foundations (CCF)

Rao Kosaraju, DD



- Algorithmic Foundations
- Communication and Information Foundations
- Software and Hardware Foundations

Computer and Network Systems (CNS)

Keith Marzullo, DD

- Computer Systems Research
- Networking Technology and Systems

Information and Intelligent Systems (IIS)

Lynne Parker, DD

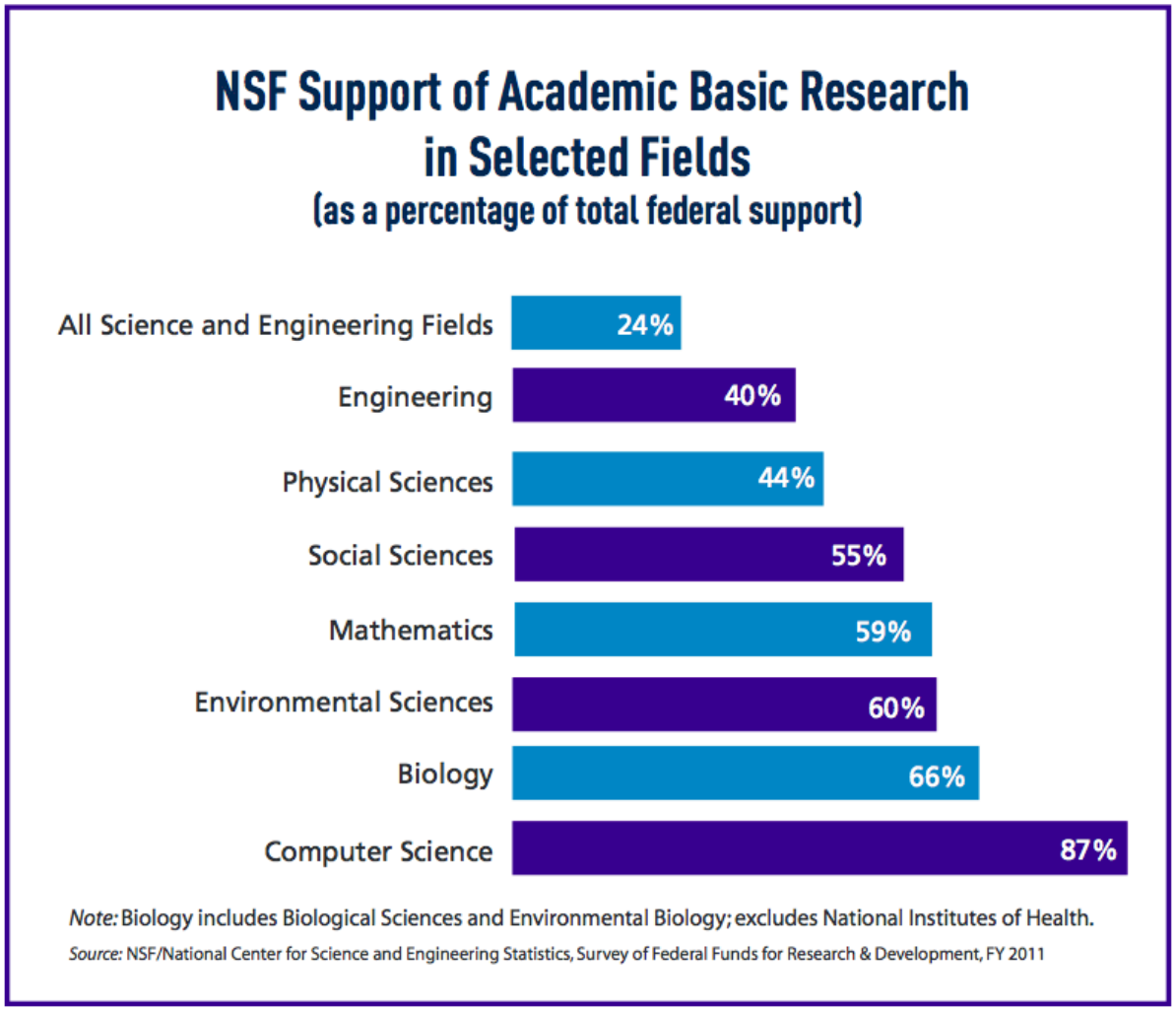
- Cyber Human Systems
- Information Integration and Informatics
- Robust Intelligence

CISE FY 2014 Activities … Reaching People

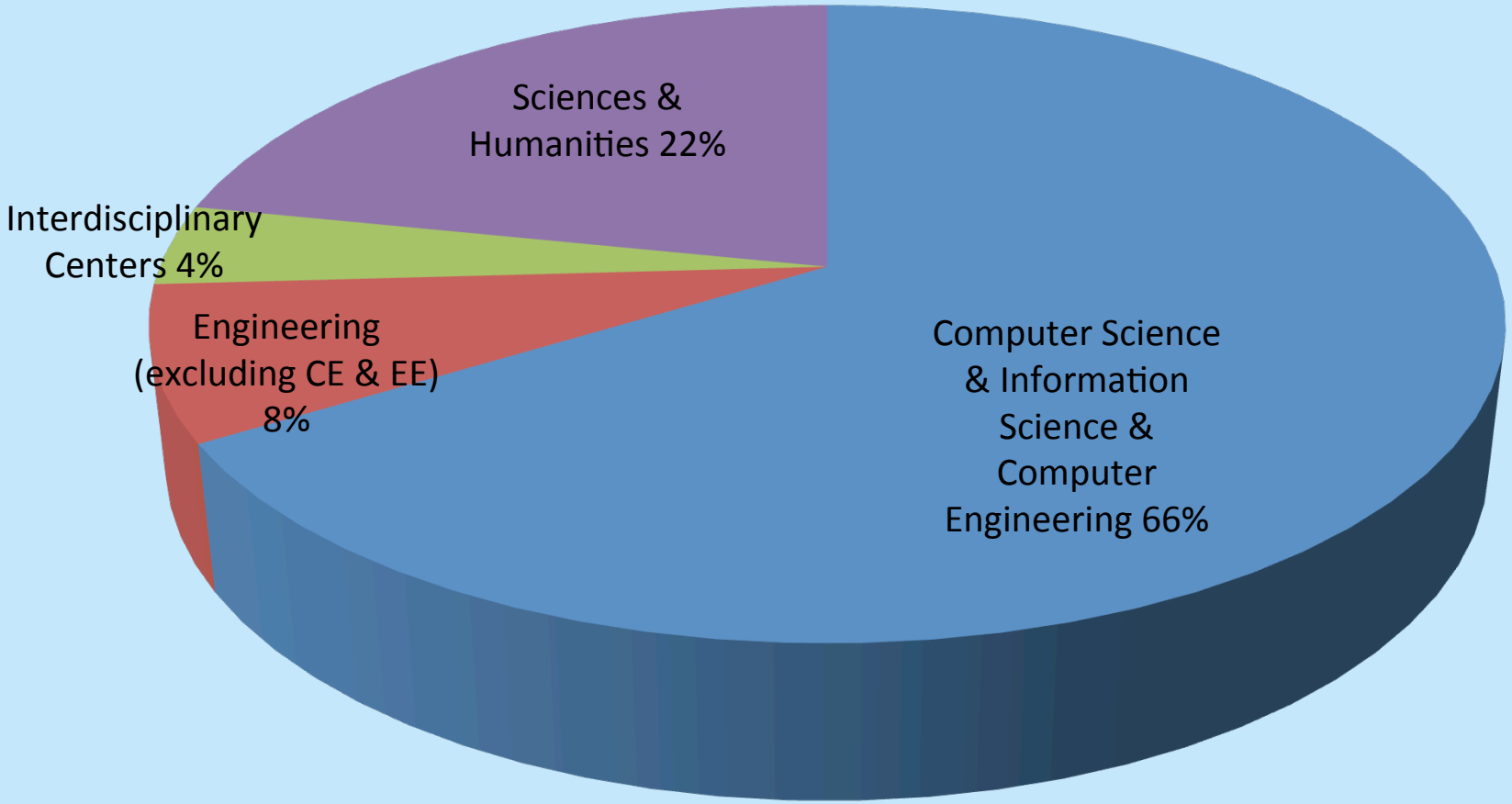
	CISE
Budget	$893M
Number of Proposals	7,436
Number of Awards	1,682
Success Rate	~23%
Average Annualized Award	$199K
Number of Panels Held	302
Number of People Supported	16,774

	CISE
Senior Researchers	6,663
Other Professionals	1,123
Postdoctoral Associates	491
Graduate Students	6,064
Undergraduate Students	2,433

NSF Support for CISE Research: Critically Important



CISE FY 2014 PI and Co-PI Departments



CISE's Commitment to the Core

CISE continues to cast a wide net and to let the best ideas surface, rather than pursuing a prescriptive research agenda. It engages the research community in developing new fundamental ideas, which are then evaluated by the best researchers through the merit review process.

This process, which supports the vast majority of unclassified computing research in the United States, has led to innovative and transformative scientific results with enormous economic impact and societal benefits.

A bit of advice

- Think big, and bold - do *great* science, something that will change the world!
- Give yourself (enough) time
  - Ideas, and narrative writing need time to percolate

- Writing: an integral part of the research process
  - Learn to write well … know your narrative
  - Get colleagues to review

It takes a community

- Get mentored:
  - Locally
  - CRA mentoring workshop
    cra.org/events/career-mentoring/
  - CRA-W
- Be a mentor
  - Get to know the NSF, your program directors
  - Be a reviewer, panelist

Thank you!

… to you

… to our organizers: Mitra Basu (NSF), Erwin Gianchandani (NSF), Howie Huang (GWU), Thyaga Nandagopal (NSF) and staff

… to our speakers:

- Tanya Berger-Wolf (U. Illinois Chicago)
- Shantenu Jha (Rutgers)
- Debbie Lockhart (NSF)
- Keith Marzullo (NSF)
- Jacob Sorber (Clemson)
- Lalitha Sankar (Arizona State)

… to our NSF Program Directors

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