CRA Government Affairs
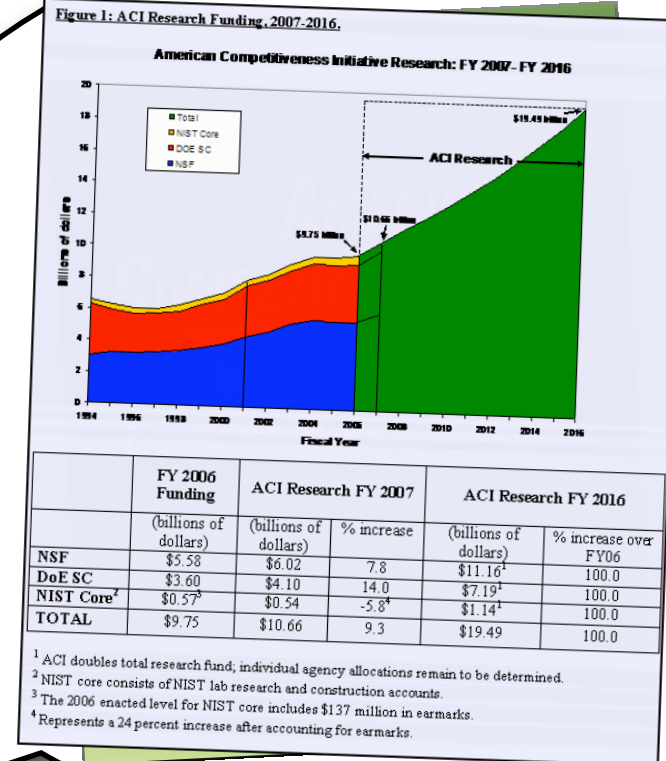# Computing Leadership Summit

Peter Harsha
February 26, 2007
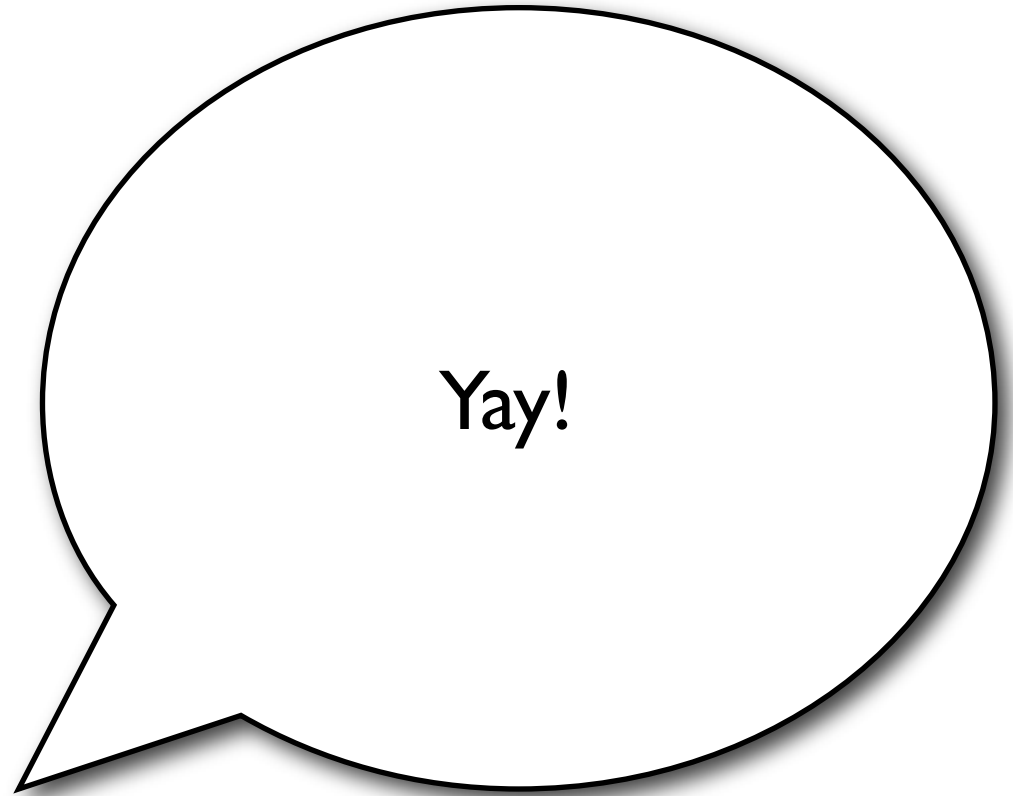
~ brief recap of 2006 ~
~ status of FY 2007 ~
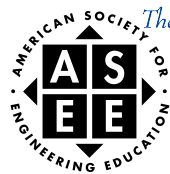~ what's ahead for FY 2008? ~

~ brief recap ~

State of the Union Address
January 2006

"I am glad that the President addressed this vital issue in his State of the Union Address, and in Minnesota today. House Democrats are ready to work with the President to move our country forward and keep America competitive – nothing could be more important."

House Minority Leader
Nancy Pelosi (D-CA)
February 2006

"At a media event, House Minority Leader Nancy Pelosi and other House Democrats joined Hollywood filmmaker George Lucas to promote an 'Innovation Agenda' that is nothing more than a laundry list of federal government-driven programs which represent the same old recipe for federal micromanagement of the economy – more spending, higher taxes, and 'targeted' relief to favored political constituencies."

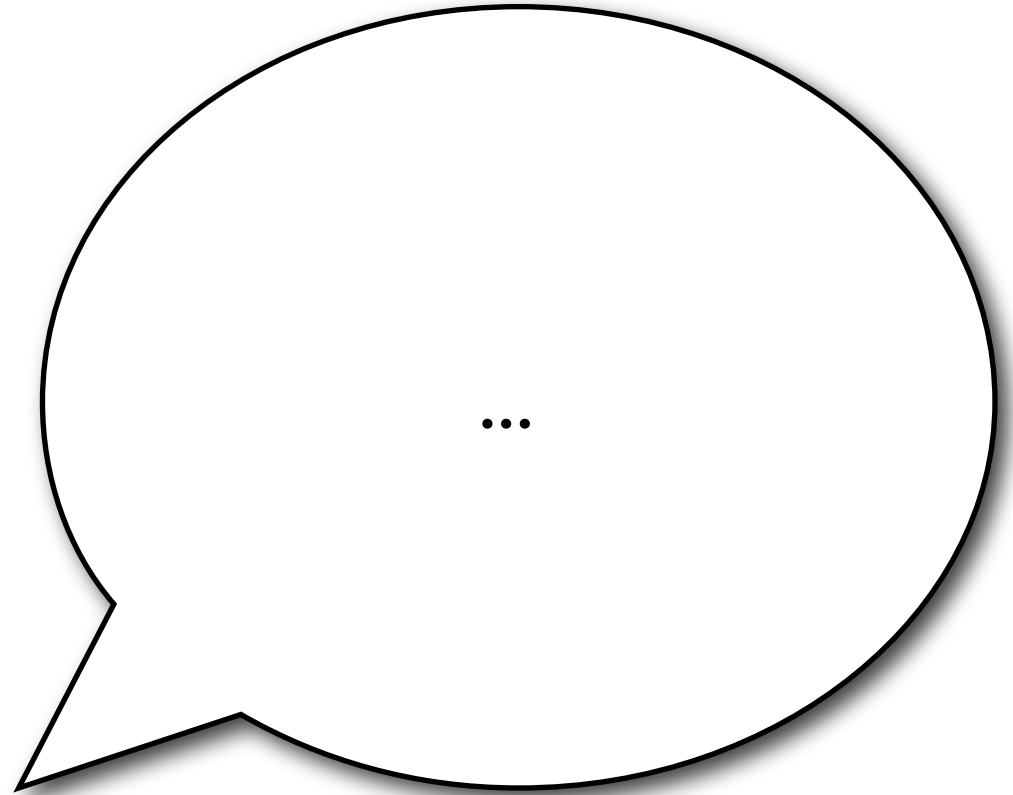## House Majority Leader
John Boehner (R-OH)
February 2006

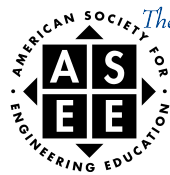# Innovation and Competitiveness Act

- Business activity tax simplification
- Attorney accountability changes
- An "Innovation Scholarship" program
- Permanent extension of R&D tax credit
- Health care choice provisions
- Health IT promotion
- No R&D funding...

House Republican
High-tech Task Force
March 2006

COMPUTING RESEARCH ASSOCIATION
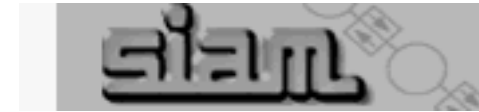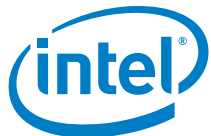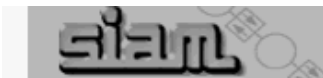
SUPPORTING COMPUTING RESEARCH AND INNOVATION

April 21, 2006

The Honorable Dennis Hastert
Speaker
U.S. House of Representatives
Washington, D.C. 20515

Dear Speaker Hastert,

As leaders and supporters of the computing research community, we write to express our concern that the proposed House Budget Resolution does not assume full funding for President Bush's American Competitiveness Initiative. We respectfully request that Congress embrace this initiative by fully funding the President's request in the budget resolution.

Numerous high-profile reports have pointed out the significant challenges that America faces from fierce and growing global competition. The President's plan recognizes the critical linkage between the federal investment in fundamental research and the rise in innovation that will be required to respond to these challenges. The President's call for increasing investment in basic research in the physical sciences represents a historic opportunity to secure the Nation's leadership in research in information technology and other physical sciences and help ensure America's future competitiveness.

The computing research field is a very concrete example of how federal investments in fundamental research drive economic growth. The field has a long history of creating revolutionary technologies that have enabled entirely new industries and driven productivity growth so critical to U.S. leadership in the new economy. A 2002 National Academies report found that federal support for computing research helped create 19 multibillion-dollar industries and made America the global leader in information technology. Further, several noted economists, including Alan Greenspan have cited the key role that information technology continues to play in driving U.S. productivity. Flat or declining agency budgets supporting computing research have created a significant concern within our community that we will cede these gains and our leadership by putting future innovation at risk.

The President's American Competitiveness Initiative provides more funding for the National Science Foundation, the Department of Energy's Office of Science, and the core labs program at the National Institute of Standards and Technology. Each agency plays an important role in funding computing research. While the House Budget Resolution does increase funding for sciences broadly, it is not clear that the increase will be enough to fund the President's initiative. We specifically ask that the budget resolution allocate enough funding to ensure the President's proposal can be met during the appropriations process.

Thank you for considering our request. We look forward to working with you as the Budget Resolution and appropriations for these agencies move through Congress.

Sincerely,

The American Association for Artificial Intelligence (AAAI)
The Association for Computing Machinery, U.S. Public Policy Committee (USACM)
Cisco Systems, Inc.
The Coalition for Academic Scientific Computation (CASC)
The Computing Research Association (CRA)
The Electrical and Computer Engineering Department Heads Association (ECEDHA)
Intel Corporation
Microsoft Corporation
The Society for Industrial and Applied Mathematics (SIAM)

Computing Research Association · 1100 17th Street, NW Suite 507, Washington, DC 20036 · 202-234-2111

Joint Letter to House Leadership
April 2006

"As leaders and supporters of the computing research community, we write to express our concern that the proposed House Budget Resolution does not assume full funding for President Bush's American Competitiveness Initiative. We respectfully request that Congress embrace this initiative by fully funding the President's request in the budget resolution...."

Joint Letter to House Leadership
April 2006

Budget resolution stalls, but message is sent

![CRA Computing Research Association logo]

House Appropriators Approve ACI Funding in FY 07 Appropriations!

House Appropriators
June 2006
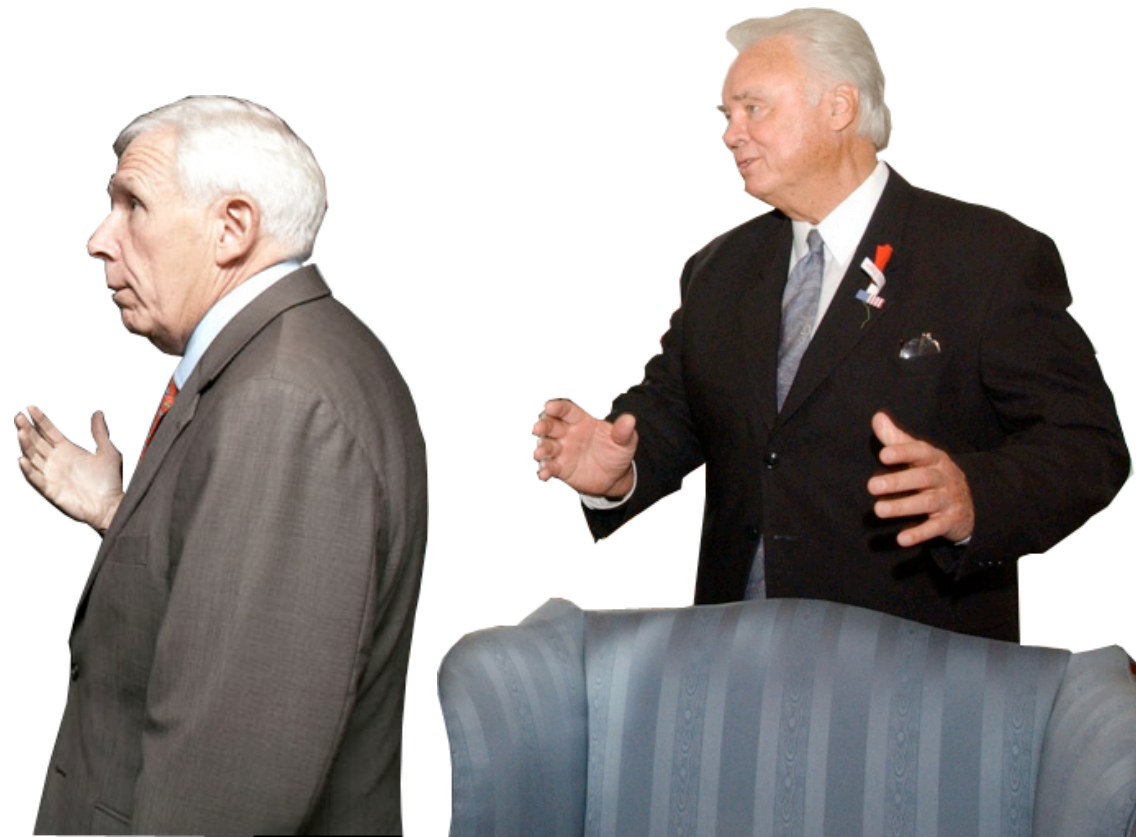
"Chairman Wolf and his committee have created a historic opportunity to secure the Nation's leadership in research in information technology and other physical sciences," said Daniel A. Reed, Director of the Renaissance Computing Institute at the University of North Carolina and Chair of the Computing Research Association. "By acting to fulfill the promise of ACI, the subcommittee has made a down payment on America's future competitiveness."

USACM

House Approves ACI Funding for FY 2007!

"These agencies, which are not exactly on the tip of everyone's tongue, are keystones of our nation's economic future. Our nation will remain strong and prosperous only if we remain innovative. And we will only remain innovative if we have the most robust research and education enterprise in the world. And it is these agencies that help enable the U.S. to lead the world in science, math and engineering education and in research." -- *Science Committee Chairman Sherwood Boehlert (R-NY)*

House of Representatives
June 2006

Senate Appropriations Committee Approves ACI Funding!

Senate Appropriators
July 2006

Then, gridlock.

The House and Senate agree to a FY 2007 Defense Approps bill that blows the budget cap by about $5 billion.

September 2006

Tough choices will have to be made
in the remaining bills.

Elect to continue appropriations
after the November elections

Congressional Republicans
September 2006

(and the Senate, too)

November 2006

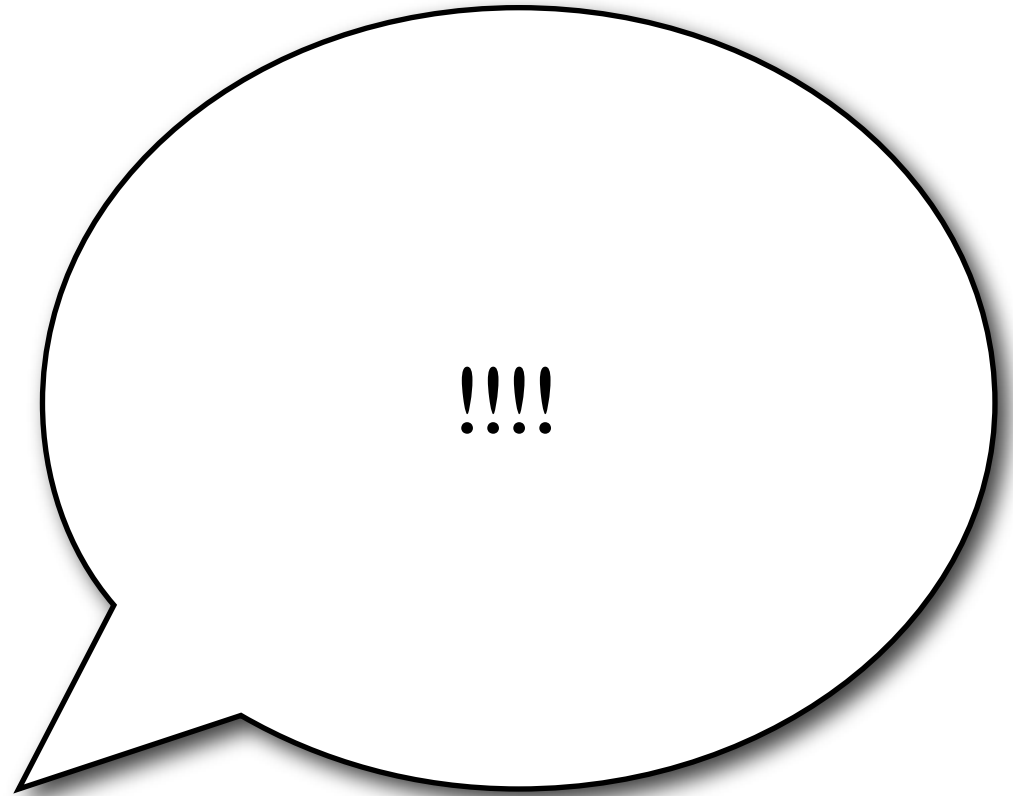Lame duck GOP leadership drops appropriations in Dems lap.

Decide they also don't have the stomach to deal with the FY 2007 appropriations mess.

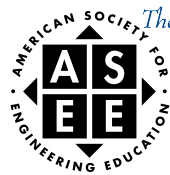Announce plan to pass a "year-long" Continuing Resolution

All agencies will be held "flat" (or worse) for FY 2007

Congressional Democrats
December 2006

SUPPORTING COMPUTING RESEARCH AND INNOVATION

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Speaker
U.S. House of Representatives
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Joint Letter to Democratic Leadership
January 2007

"Preserving the proposed increases for NSF, NIST and DOE Office of Science in a limited adjustment to the FY 2007 Continuing Resolution would be a simple and necessary step to ensure U.S. competitiveness. While the payoffs of past research have been dramatic, the field of information technology remains in relative infancy. Tremendous opportunities remain - far more can happen in the next ten years than has happened in the last thirty, and it is crucial that America lead the way."

Joint Letter to Democratic Leadership

January 2007

Rep. Vern Ehlers (R-MI), Science Committee Chairman Bart Gordon (D-TN) and Rep. Rush Holt (D-NJ) circulate "Dear Colleague" for Science in the CR.

78 House Members sign on (both D's and R's).

23 Senators (D's and R's) signed a similar letter to the Senate Appropriations Chairman.

Relentless pressure from the science community, its partners in industry, and champions of science in Congress had the desired effect.

Announce agreement on CR
Protect increases for Science!

Appropriations Chairmen
January 30, 2007

Agreement basics:

- Most federal agencies flat-funded for FY 2007 and earmarks eliminated
- 60 domestic programs see cuts
- Science agencies (NSF, NIST, DOE, and NIH) receive most or all of their FY 2007 requests
- Science joins fed. highway programs, veteran's health care, the FBI and local law enforcement, and Pell grants in receiving increases
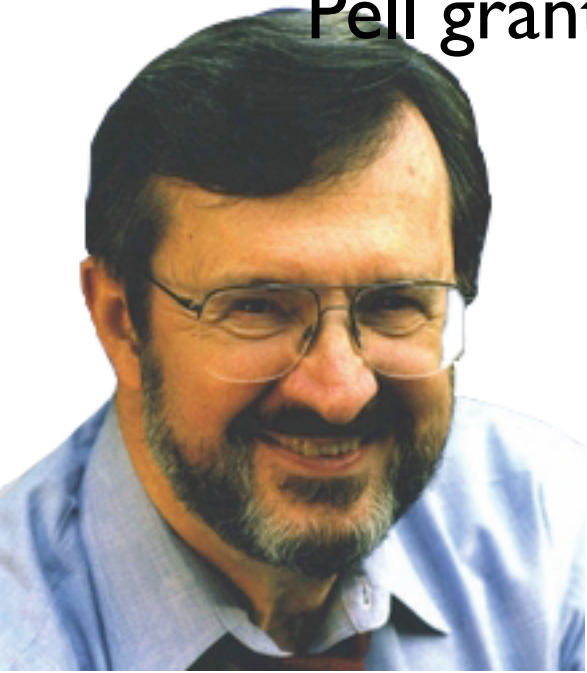
Appropriations Chairmen
January 30, 2007

From the President's ACI to the Democrat's CR, federal science funding enjoys special status as a "national priority."

~ So how'd we end up? ~

- NSF's research accounts received a 7.7 percent increase, matching the increase called for in the ACI -- about $335 million more than FY 06

- NIST received $50 million in additional funding for it's core research budget -- $22 million less than the request

- DOE Sci received $200 million more than FY 06, plus $127.8 million in previously earmarked funds

FY 2007 Defense S&T

(in millions)

	FY06 Est	PBR FY07	FY07 Conf	$ over FY06	% over FY06
Basic Research 6.1	$1,470	$1,422	$1,552	$83	5.6%
Applied Research 6.2	$5,168	$4,478	$5,282	$114	2.2%
Advanced Tech Dev. 6.3	$6,603	$5,183	$6,494	$109	-1.7%
Total	$13,242	$11,083	$13,329	$87	0.7%

DOD Computing Research
FY 2007

- Two DARPA computing programs targeted by Senate Appropriators

  - Cognitive Computing: cut $30 million from the President's request; still increases 10.4 percent over FY 2006

  - Information and Communications Technology: $8 million cut from the request; 19 percent increase over FY 2006

DOD Computing Research
FY 2007

- Computing cuts are part of a $159 million overall cut to DARPA's requested budget

  - (Senate proposed a $433 million cut!)

- Cuts to proposed budget reflects growing dissatisfaction with DARPA management

~ How do things look for FY 2008? ~

Pretty good, actually.

"The President remains fully committed to the success of the American Competitiveness Initiative and the Administration looks forward to Year Two of the ACI and working with the 110th Congress to achieve the President's vision for innovation."
   -- *John Marburger, Director, Office of Science and Technology Policy*

NITRD Request for FY 2008
dollars in millions

	FY07 req	FY08 req	$ change	% change
NSF	903.7	993.7	90	10.0%
Defense	1063.5	1026.9	-36.6	-3.4%
OSD/DOD Labs	*568.2*	*511.8*	*-56.4*	*-9.9%*
DARPA	*419.9*	*412.5*	*-7.4*	*-1.8%*
NSA	*75.4*	*102.6*	*27.2*	*36.1%*
HHS	540.6	462.4	-78.2	-14.5%
Energy	388.5	403.6	15.1	3.9%
NASA	82.0	84.6	2.6	3.2%
NIST	50.4	50.4	0	0.0%
NOAA	23.3	23.3	0	0.0%
EPA	6.3	6.3	0	0.0%
NARA	3.5	4.5	1	28.6%
Totals	**3061.8**	**3055.7**	**-6.1**	**-0.2%**

National Science Foundation
FY 2008 Request

(in millions)

	FY 06 (actual)	FY 07 (request)	FY 08 (request)	$ Change vs. FY 07 req	% Change vs. FY 07 req.
NSF	$5,646	$6,020	$6,429	$409	7%
R&RA	$4,449	$4,765	$5,132	$366	8%
MREFC	$234	$241	$245	$4	2%
EHR	$700	$716	$751	$35	5%

- Bulk of planned increase in NSF's research account

NSF Request
FY 2008

- New Foundation-wide program planned beginning in FY 08: *Cyber-enabled Discovery Initiative*

  - aims to "broaden the Nation's capability for innovation by developing a new generation of computationally based discovery concepts and tools to deal with complex, data-rich and interacting systems."

NSF Request
Cyber-enabled Discovery Initiative
FY 2008

- $52 million program in FY 08, scaling to $250 million in FY 12

- Will be led by CISE, which will control $20 million of the funding

- Also participating: ENG, MPS, SBE, OCI, Int'l Sci, and EHR

NSF Request
Computer and Information Science and Engineering Directorate
FY 2008

- Would grow to $574 million in FY 08, up 9 percent from FY 07

- Would receive a higher percentage increase than any other research directorate; largest increase for CISE in 7 years

- Will be headed by Jeanette Wing, CMU

NSF Request
Computer and Information Science and Engineering Directorate
FY 2008

	FY 06 (actual)	FY 07 (request)	FY 08 (request)	$ Change vs FY 07 req	% Change vs FY 07 req
Computing and Communication Foundations	105.3	122.8	149.2	26.3	21.4%
Computer and Network Systems	141.1	163.0	192.0	29.0	17.8%
Information and Intelligent Systems	103.8	119.3	154.6	35.33	29.6%
Information Technology Research	146.2	121.6	78.24	-43.35	-35.7%
Total, CISE	**496.4**	**526.7**	**574.0**	**47.3**	**9.0%**

NSF Request
Computer and Information Science and Engineering Directorate
FY 2008

- High-risk, High-return Research ($50 million): "Seeking Big Ideas in support of Grand Vision."
  - Programs in the area will focus on fundamental questions in computing, larger projects, and try to exploit the potential of emerging technologies.

- Cyber-enabled Discovery ($20 million)

- GENI ($20 million): pre-construction planning

NSF CISE

- NSF supported 87 percent of academic computer science research in FY 06.

- Funding rate dropped 4% to 18% in FY 07

- Number of awards dropped to 950 in FY 07 from 1,003

  - NSF expects both numbers to improve slightly in FY 08

DOE Office of Science
FY 2008

- Slated for a $296 million increase over the FY 07 request -- or 7 percent -- under the President's FY 08 plan

- Advanced Scientific Computing Research would increase $21.5 million, 6.8 percent, to $340.2 million

NIST
FY 2008

- NIST's core research and facilities accounts would grow to $586 million in FY 2008, an increase of $55 million or 10 percent over the President's FY 2007 request.

- NIST Labs would increase 15.7 percent over the FY 07 enacted level

- ATP zeroed in request

Defense
FY 2008

- Basic Research (6.1) would decline 8.7 percent vs. FY 07 enacted (-$136 million)

- Applied Research (6.2) would decline 18.2 percent vs. FY 07 enacted (-$972 million)

- Adv. Technology Dev. (6.3) would decline 22.5 percent vs. FY 07 enacted (-$1.445 billion)

Defense Computing
FY 2008

	FY06 (actual)	FY 07 (enacted)	FY 08 (request)	$ change vs. FY07	% change vs. FY07
Information Sciences (6.1)	$18.4	$26.9	$29.6	2.7	10.0%
Info and Com. Tech (6.2)	$191.0	$234.1	$229.7	-4.4	-1.9%
Cognitive Computing (6.2)	$159.2	$180.0	$179.7	-0.3	-0.2%

High-performance Computing R&D Act

- Introduced by Rep. Brian Baird (D-WA) and Judy Biggert (R-IL)

- Aims to provide sustained access for the research community to federal HPC assets, assure a balanced portfolio and beef up interagency planning

- Two key provisions: Roadmap; PITAC review of funding every two years

NSF Reauthorization

- House Science Committee drafting bill now, hoping to mark up in March or April

- Will likely address concerns about a de-emphasis of education mission

- Clarify concerns about NSF's role supporting programs that seek to increase participation of underrepresented groups in math and science

Increasing the Participation of Underrepresented Groups in Science Letter

Computing Research Association
Association for Computing Machinery
Committee on the Status of Women in Computing Research
Coalition to Diversify Computing
National Center for Women and IT
National Girls Collaborative Project
Girl Scouts of the USA
Society of Women Engineers
Computer Science Teachers Association
Society for Industrial and Applied Mathematics
Association for Women in Science
International Society for Technology in Education

Other Issues:

Image
Workforce/Outsourcing/Innovation Issues
Education
Defense

Things are looking ok.

Thanks!

Peter Harsha
Director of Government Affairs

email: harsha@cra.org
blog: http://cra.org/blog