



## Introduction to NSF and Computer Vision Related Programs

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## NSF in a Nutshell

- Functions as an independent US federal agency under the Executive Branch
- Supports basic research, education and research infrastructure
- Utilizes grant mechanism
- Discipline-based structure



FY 2010 budget  
\$ 6.87Billion  
FY 2011 requested budget  
\$7.42Billion



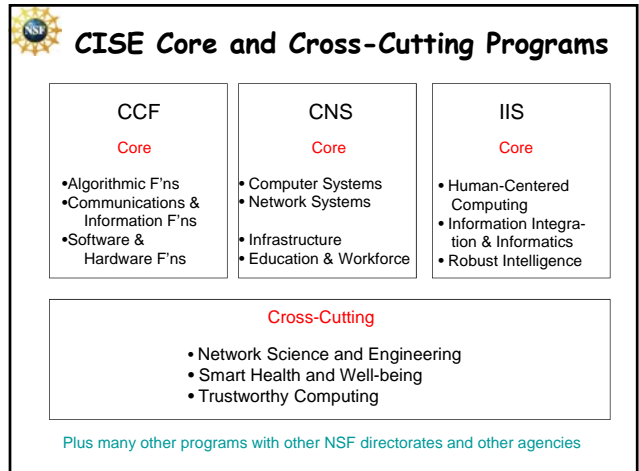
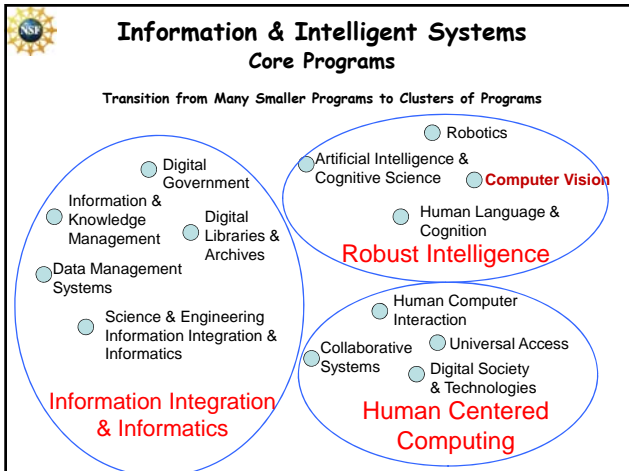
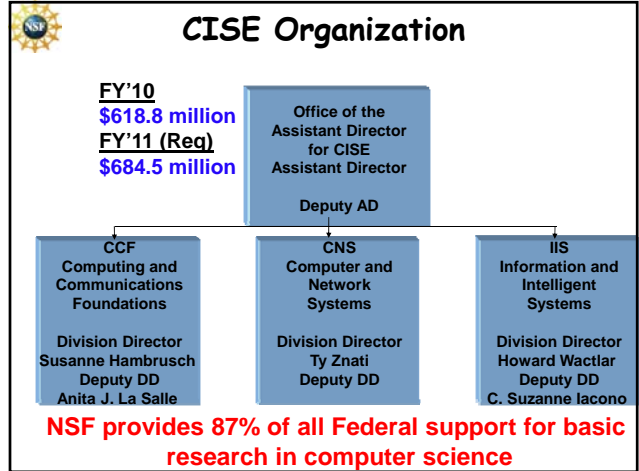
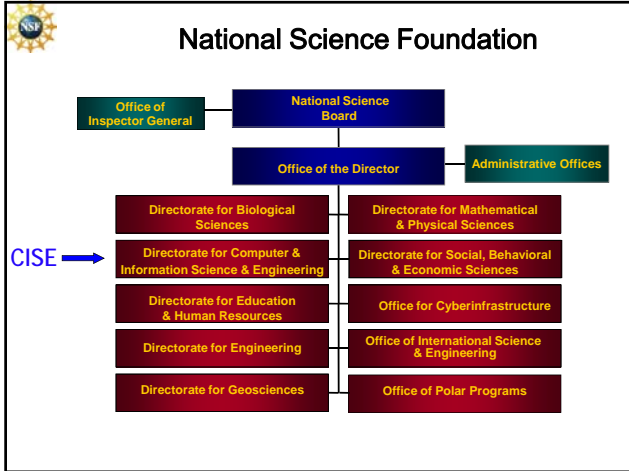
## NSF's Origin, Mission and Goal


- NSF established in 1950 by NSF Act
- Only federal agency to provide funding for research in **all** Sci. & Eng.
- Mission:
  - Promote the progress of science
  - Advance the national health, prosperity, and welfare
  - Secure the national defense
  - Build a workforce in Science & Eng.






## NSF Strategic Goals

- **Discovery:**  
Advancing frontiers of knowledge
- **Learning:**  
Science and engineering workforce and scientific literacy
- **Research Infrastructure:**  
Advanced instrumentation and facilities
- **Stewardship:**  
Supporting excellence in science and engineering research and education






## Core and Cross-Cuts


- 2010 Deadlines (for FY11)
  - MEDIUM: Sept. 1 – 15, 2010 
  - LARGE: Nov. 1 – 28, 2010
  - SMALL: Dec. 1 – 17, 2010
- Budgets
  - SMALL: up to \$500,000 total budget with durations up to 3 years
  - MEDIUM: \$500,001 to \$1,200,000 total budget with durations up to 4 years
  - LARGE: \$1,200,001 to \$3,000,000 total budget with durations up to 5 years.
- Budgets for Cross-Cuts
  - NetSE: \$20M, ~25 awards (only Medium and Large) 
  - Smart Health and Well-being: \$15M, 40 awards 
  - Trustworthy Computing: \$70M, 60 awards
- PI and co-PI limits: 2 for each across the directorate

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## Expeditions

- Bold, creative, visionary, high-risk ideas
- Whole >>  $\Sigma$  part ;
- Solicitation is deliberately underconstrained
  - What do YOU want to do?
  - Response to community
    - Loss of ITR Large, DARPA changes, support for high-risk research, large experimental systems research, etc.
- ~ 3 awards, each at \$10M for 5 year
  - FY08 122 LOI, 75 prelim, 20 final, 7 reverse site visits, 4 awards
  - FY09 48 prelim, 20 final, 7 reverse site visits, 3 awards
  - FY10 23 prelim, 16 final, 8 reverse site visits, 3 awards



## CISE-relevant Learning Programs

- Broadening Participation in Computing (BPC)
  - New Solicitation in September
- CISE PATHways (CPATH) to Revitalized Education in Computing
  - New Solicitation in September
- REU Sites & Supplements
- Graduate Research Fellowships
- Integrative Graduate Education & Research Training (IGERT)
- CISE in K-12
  - 10,000 Teachers for 10,000 Schools
  - RET Supplements
  - 6K-12
- *New program in FY11: Cyberlearning Transforming Education (CTE), solicitation to be published*



## Young Faculty and Graduate Student Support

- CAREER program
  - \$54.57M in FY11
  - 7.1% increase over FY10
- Graduate Research Fellowships (GRF)
  - \$2.55M in FY11
  - Reflects doubling over past two years
  - *Computer Science needs to increase pool of applicants*
  - *Must encourage our seniors and first-year graduate students to apply!*

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## CISE Research Infrastructure Programs

- CISE Research Infrastructure (CRI)
- Major Research Infrastructure (MRI)
- Academic Research Infrastructure
- GENI Project Office calls for proposals



## EAGER and RAPID replace SGERs

- As of January 5, 2009, the Small Grants for Exploratory Research (SGER) program replaced by *Grants for Rapid Response Research (RAPID)*-
  - supports quick-response research on natural or anthropogenic disasters and similar unanticipated events
  - Up to \$200K and one year duration
  - project descriptions are expected to be brief (two to five pages) and include clear statements as to why the proposed research is of an urgent nature
- *EARly-concept Grants for Exploratory Research (EAGER)*-
  - supports high-risk, exploratory and potentially transformative research.
  - Up to \$300K and two years duration.
  - project description is expected to be brief (five to eight pages) and include clear statements as to why this project is appropriate for EAGER funding
- More details in Grant Proposal Guide (10-1)



## Get Involved

- Send your best ideas to NSF: consistent with program focus and goals
- **Volunteer to be a reviewer and panelist**
- Get to know your Program Directors
- Keep us informed of your accomplishments
- Work within your institutions to support collaborative, interdisciplinary research
- Call our attention to things that need improvement
- Suggest transition strategies from basic research to prototyping and production
- Participate in NSF-funded events, workshops, etc.
- Plan to serve as a program officer ("rotator") or division director
- Consider participating in the Computing Community Consortium: [www.cra.org/ccc](http://www.cra.org/ccc)



## Conclusions

- NSF's role is fundamental to all areas of our society - the most basic future investment
- There are many programs in NSF support Computer vision related research
- NSF and our field are facing unprecedented pressures that can only be overcome by concerted, cooperative action

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## Thank You

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