Panel Title: Federal Research Funding Sources for Computing
Panel Description: This workshop reports on federal research funding for computing initiatives. Current developments and expectations for the future will be discussed by participants from NSF-CISE, NIH and NSA.

This talk is a very brief introduction to the NIH for a computational science audience that is unfamiliar with NIH. Materials have been included from public presentations and websites wherever possible.

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Why NIH is on this panel.
About the NIH
The Nation’s Medical Research Agency

• The NIH invests over $27 billion annually in medical research for the American people.
• More than 80% of the NIH’s funding is awarded through almost 50,000 competitive grants to more than 212,000 researchers at over 2,800 universities, medical schools, and other research institutions in every state and around the world.
• About 10% of the NIH’s budget supports projects conducted by nearly 6,000 scientists in its own laboratories, most of which are on the NIH campus in Bethesda, Maryland.

www.nih.gov/about
www.nih.gov/about/budget.htm

www.nih.gov/about/organization.htm

Unlike NSF, DARPA and so on the NIH has a significant internal research presence.

In NIH terms the internal NIH research is “intramural” and the external NIH-supported research is “extramural.”

Most NIH Institutes and Centers have both intramural and extramural research, but some only have extramural research.
The National Institutes of Health

27 Separate Institutes & Centers (IC):

- Different missions & priorities
- Different budgets
## Summary of Appropriations

(Dollars in millions)

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There is significant computation, or “informatics,” in the NIH Roadmap initiatives.
Roadmap in FY05: 0.8% of Total Budget

FY2005 Request = $28,757M

- Non-Roadmap: 99.2% ($28,520 Million)
- Roadmap: 0.8% ($237 Million)

Roadmap in FY06:
- 1.2% of budget
- 133 institutions, 33 states

From "NIH at the Crossroads" presentation by Dr. Zerhouni, May 31 2006
Finding Current Awards

- Internet search for “NIH CRISP” to see searchable grant location database back to 1972 (www.crisp.cit.nih.gov)
- To see the monetary value of the awards found in CRISP, use: grants2.nih.gov/grants/award/state/state.htm
- To find biomedical research results, use the NLM’s PUBMED www.pubmed.gov
NIH Miscellany

• NIH grant types (there are many):
grants1.nih.gov/grants/funding/funding_program.htm
grants1.nih.gov/grants/funding/ac.pdf

• NIH peer review process:
grants1.nih.gov/grants/peer/peer.htm

• NIH talks and courses online: videocast.nih.gov
Current Examples
The 2006 All Hands Meeting will be on July 17-19 at the NIH in Bethesda, MD:  www.bisti.nih.gov/ahm2006

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Stimulates basic research to develop versatile new technologies and methods that help researchers who are studying virtually every human disease.

Provides access to state-of-the art technologies and instruments that enable both basic biomedical research and clinical investigations of a multitude of health issues.

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Cancer Biomedical Informatics Grid™ (caBIG™)

• Common, widely distributed infrastructure permits research community to focus on innovation

• Shared vocabulary, data elements, data models facilitate information exchange

• Collection of interoperable applications developed to common standards

• Raw published cancer research data is available for mining and integration

www.caBIG.NCI.NIH.gov

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What is the NIH Neuroscience Blueprint?

The Blueprint is a framework to enhance cooperative activities among NIH Institutes and Centers that support research on the nervous system. By pooling resources and expertise, the Blueprint can take advantage of economies of scale, confront challenges too large for any single Institute or Center, and develop research tools and infrastructure that will serve the entire neuroscience community. “Best practices” developed at a single Institute or Center will be implemented more widely; planning will be coordinated at the early concept stage; resources established by one Institute or Center may be opened to neuroscientists supported by others; and new working groups can focus on diseases and cross-cutting scientific issues for which such groups do not already exist.

Contact us by email at: blueprint@mail.nih.gov.
There are significant communities that do not have ready access to the Internet and to the tools and resources that we often assume to be uniformly available.

This is an important limitation for research and for health care.

Lariat has addressed this challenge in six northwestern states: Alaska, Hawai‘i, Idaho, Montana, Nevada, Wyoming.

Also see: Supporting Connectivity for Biomedical Research (Joint meeting with Internet2 and TATRC): www.esi-bethesda.com/ncrrworkshops/connectivity/index.aspx

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Modeling of Infectious Disease Agent Study (MIDAS)

MIDAS is a collaboration of research and informatics groups to develop computational models of the interactions between infectious agents and their hosts, disease spread, prediction systems, and response strategies. The models will be useful to policymakers, public health workers, and other researchers who want to better understand and respond to emerging infectious diseases. If a disease outbreak occurs, the MIDAS network may be called upon to develop specific models to aid public officials in their decision-making processes.

MIDAS is an NIGMS Program with a research network built using the U01 mechanism; started May 2004.

Scientific Director: Dr Irene Eckstrand
Program Director: Dr James Anderson
Informatics Advisor: Dr Peter Highnam

www.NIGMS.NIH.gov/initiatives/midas www.epimodels.org

Multi-disciplinary
Large scale distribution computation, with the NSF-supported supercomputing centers
Large complex highly stochastic simulation models

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Opportunities?
Finding Opportunities, I

• NIH Guide for Grants and Contracts
  grants1.nih.gov/grants/guide/index.html
• Biomedical Information Science and Technology Initiative (BISTI)
  www.BISTI.NIH.gov
• Bioengineering Consortium (BECON)
  www.BECON.NIH.gov
• NIH Roadmap
  NIHRoadmap.NIH.gov
• And, increasingly:

The **NIH Guide for Grants and Contracts** is the official publication for NIH medical and behavioral research grant policies, guidelines and funding opportunities.

BISTI and BECON are trans-NIH organizations that track activities, opportunities and so on that are particularly relevant to computing.
Finding Opportunities, II

• Visit websites for each of the NIH institutes and centers. For “IXY”:
  www.IXY.NIH.gov

• Join NIH public mailing lists:
  list.NIH.gov

• Communicate with NIH Program Directors; many of the computational people are listed on the BISTI site.
Current BISTI Announcements

- Innovations in Biomedical Computing Science and Technology (R01/R21)
- Innovations in Biomedical Computational science and Technology (SBIR/STTR)
- Collaborations with National Centers for Biomedical Computing (R01/R21)
- Continued Development and Maintenance of Software