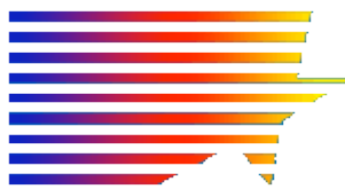


Corridor Talk: necessary informal inside information

NIH, Its Institutes, and Its Funding Mechanisms
for Medical Research

Terry S. Yoo

Office of High Performance Computing and Communications
National Library of Medicine
National Institutes of Health
U.S. Department of Health and Human Services
United States of America, North American Continent, Earth



cor - ri -dor talk *n* **1:** the practice of passing on tips, insights, and strategies about the means of production of academic work (as at professional conferences, where, it is frequently remarked, the most important business takes place “out in the corridor” rather than inside the meeting rooms) **2:** nonascribable (off-the-record) but necessary information; practical gossip **3:** common-sense, informal (not publicly taught) mentoring; the unsaid , but frequently said anyway (though not to everyone).

An experiment:

1. Raise your hand.
2. If I get to a term you don't know, please lower your hand.

Grant

RFP (Request for Proposals)

Research Contract

Cooperative Agreement

PAR (Program Announcement)

BAA (Broad Agency Announcement)

RFA

SBIR

STTR

R01

P41

CRADA

P01, R03, R21, R33, U01, U54, T32, T15, K13, ...

Goals

1. Overview of NIH.
2. Briefly cover NIH procedures.
3. Describe the NIH peer-review process.
4. Survey NIH funding opportunities past and present.

Provide researchers new to NIH with information to help improve the overall quality of new proposals in biomedical engineering research.

Chance favors the prepared mind.

- *Louis Pasteur*

Luck is when preparation meets opportunity.

- *Seneca (quoted by Roy Williams)*

Acknowledgements:

NSF:

Debbie Crawford

Slides:

Helen Fraser

Lee Rosen

The Government is a very big place.
NIH is a pretty big place.

Give a basic introduction to the National
Institutes of Health.

Give a basic introduction to the NIH funding
picture and some basic differences from
NSF

DARPA: \$3.248 Billion

NSF: \$7.044 Billion

NASA: \$18.7 Billion

DOE: \$26.39 Billion

NIH: \$30.8 Billion

Source: the 2010 Presidential budget request

Some basic notes across Feds:

1. Grants - Proposals

- Panel has less time to think through your idea than you do.
- Proposal writing as story telling
- Volunteer

2. Budgets - rising in science and technology

- DOE is optimistic
- NSF is optimistic
- NIH is cautious
- Funding is a zero sum game (10%?)

3. Domestic spending to be capped in 2012?

NIH Mission



***Improve human health
through biomedical
and behavioral
research,
research training and
communications.***



A mistaken view...



NIH is 27 separately funded Institutes and Centers...

Bethesda, MD:

NIH Campus

Rockville, Poolesville, MD

NCI, NINDS, NIBIB, NIMH, NCRR

Baltimore, MD

Bayview Campus: NIDA, NIA

Frederick, MD

Frederick Cancer Research Center

Research Triangle Park, NC

NIEHS

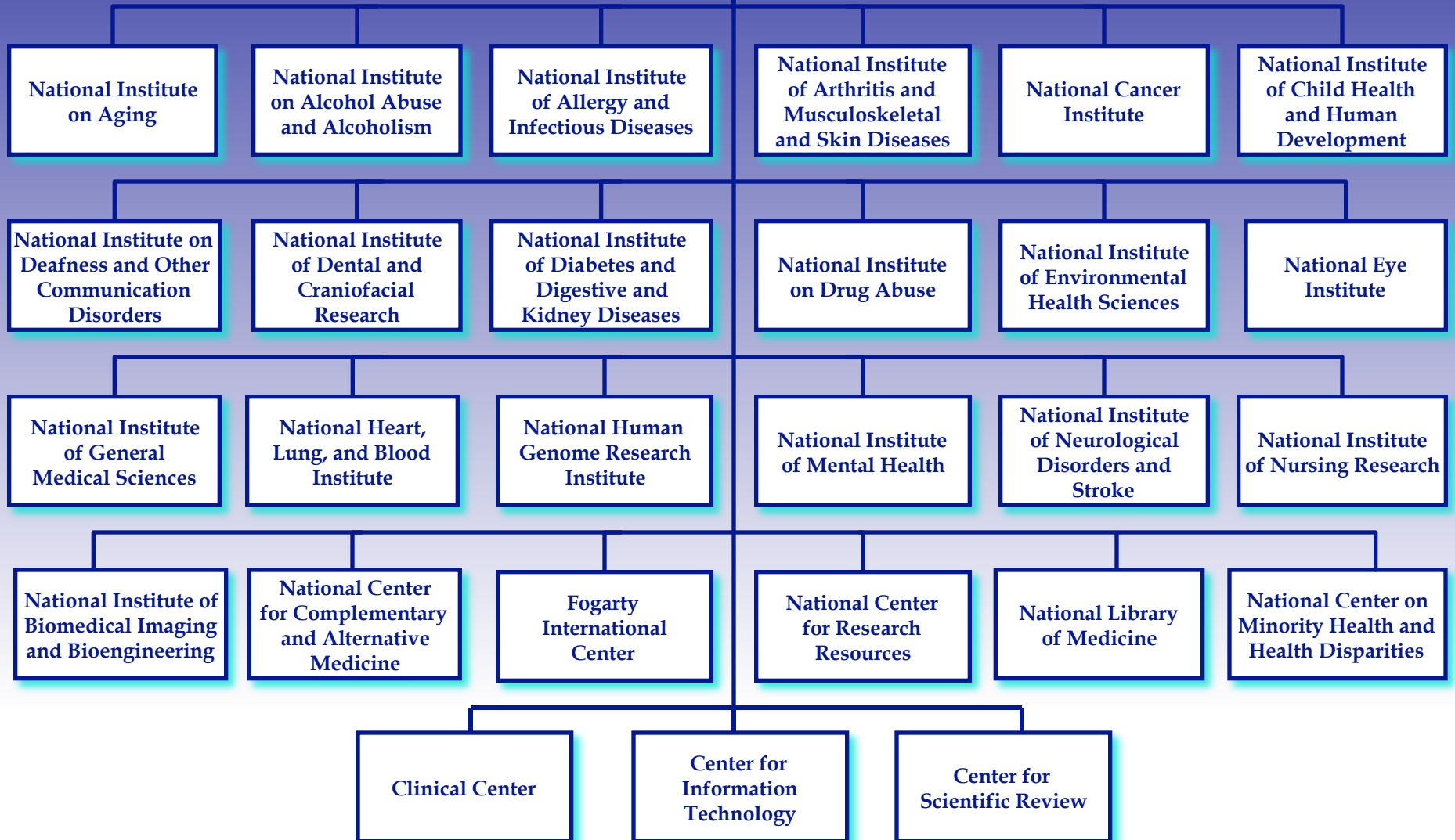
Hamilton, MT

Rocky Mountain Laboratory



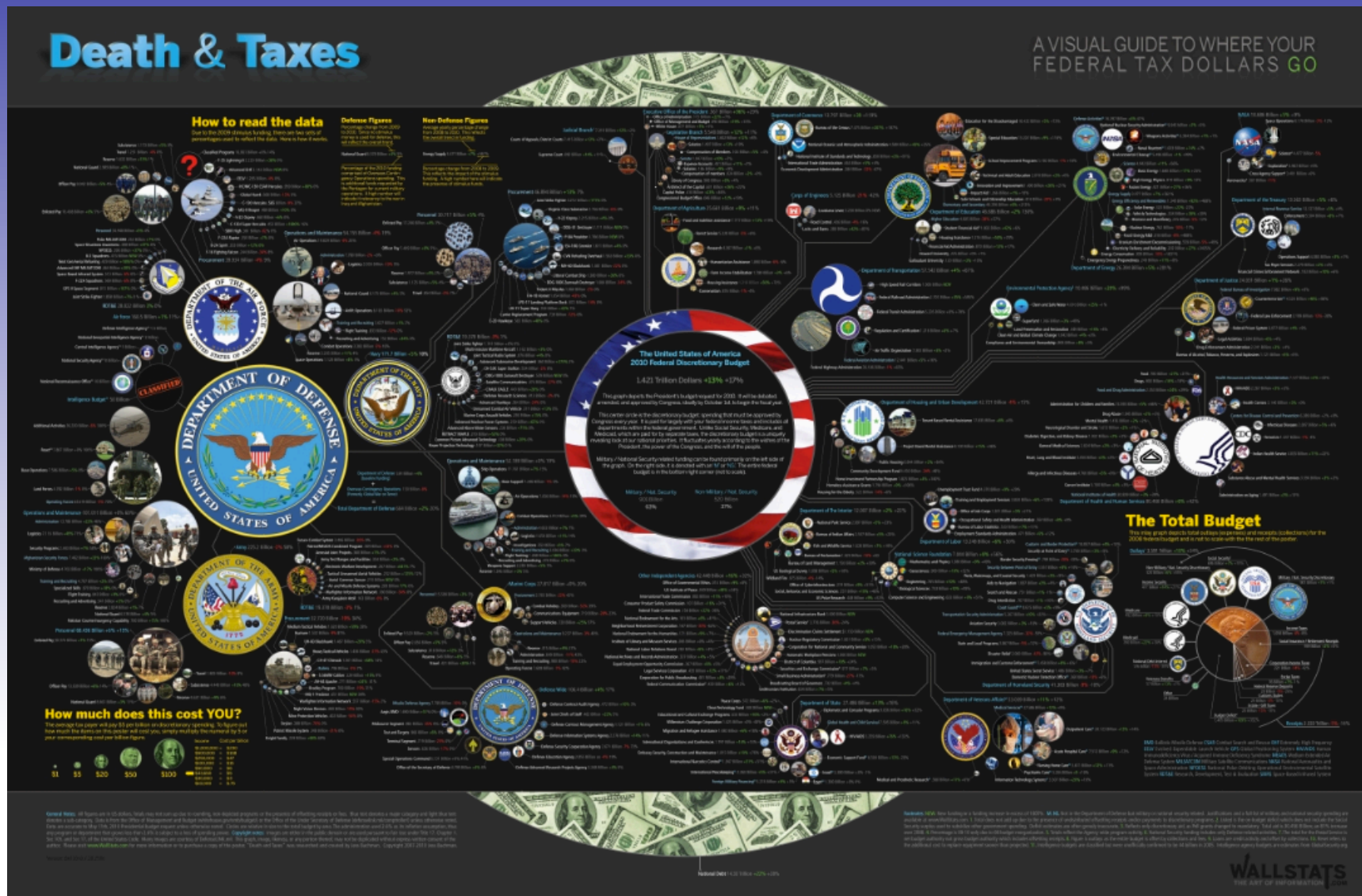
National Institutes of Health

Office of the Director

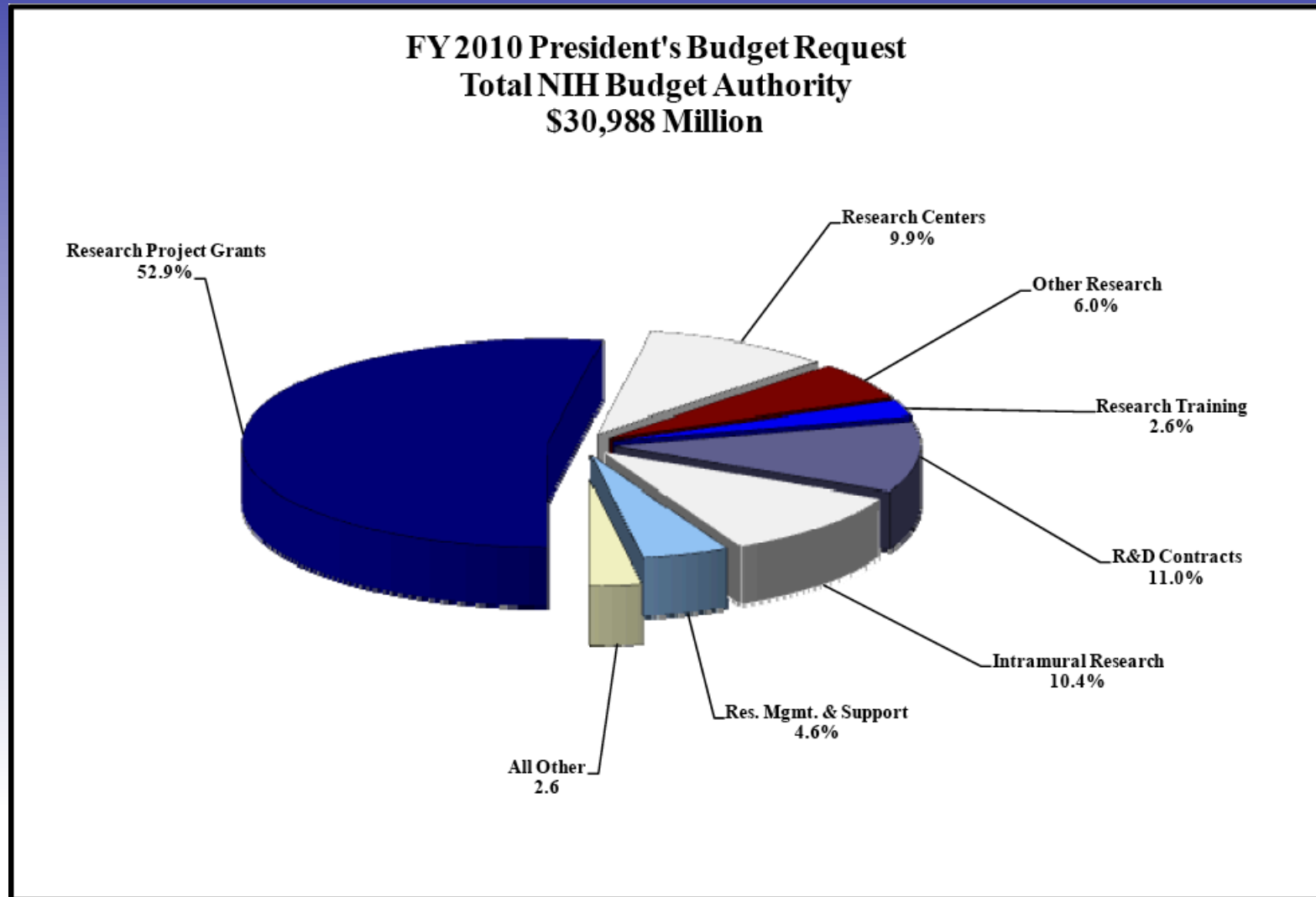


Another view...

Check out: <http://www.wallstats.com/deathandtaxes/>



A zero sum game?



Mission of the NIH

Promoting the nation's health through research.

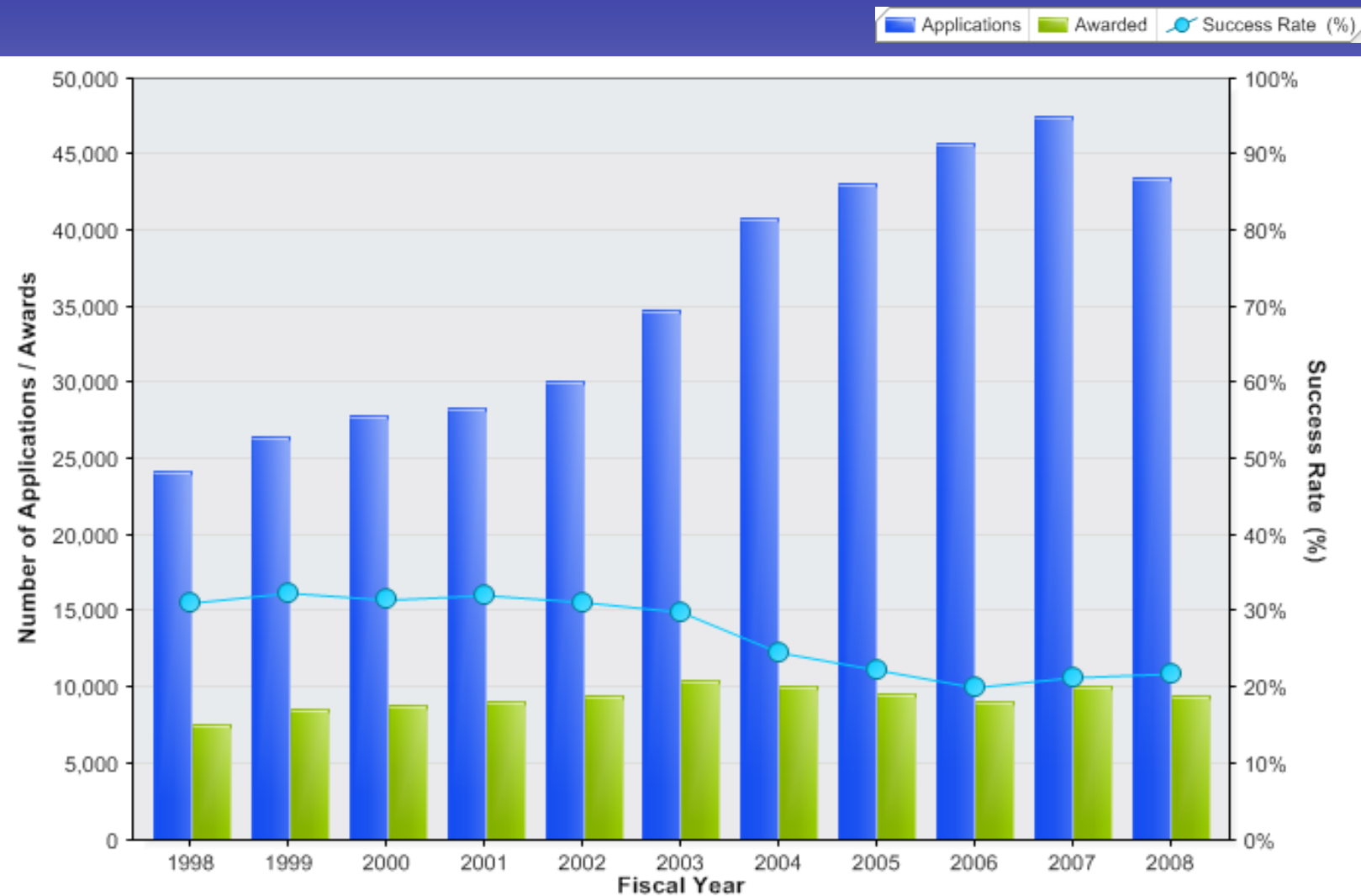
1. Intramural research (NIH labs) - 10% of the budget, 6,000 scientists
2. Extramural research (grants) - 80-90% of the budget

Not a monolithic Agency - 28 Institutes and Centers

NCI \$4.8B	NIAID \$4.3B	NHLBI \$2.9B	NIDDK \$1.9B	NINDS \$1.6B	NIMH \$1.4B
NICHD \$1.3B	NIA \$1.1B	NIDA \$1.0B	NEI \$0.7B	NIEHS \$0.7B	NIAMS \$0.5B
NIAAA \$0.4B	NIDCD \$0.4B	NIDCR \$0.4B	NCMHD \$0.2B	NCCAM \$0.1B	NINR \$0.1B
NIGMS \$1.9B	NCRR \$1.2B	NHGRI \$0.5B	NLM \$0.3B	NIBIB \$0.3B	
CC	CIT	CSR	FIC	OD	

Research Project Grants

Applications, awards, and success rates



NIH is PEOPLE

- There is a human being on the other end.
- There is an institute at the other end.
- GET TO KNOW THEM.

Types of NIH Grants

- Mentored Quantitative Research Career Development Award (K25)
- NIH Research Project Grant (Investigator Initiated) (R01)
- NIH Small Business Innovation Research (SBIR)
- NIH Small Business Technology Transfer (STTR) Programs
- NIH Small Grant Program (R03)
- NIH Support for Conferences and Scientific Meetings (R13 and U13)
- NIH Project Grants (P01)
- NIH Biotechnology Resource Grant (Biotechnology Resource Center) (P41)
- NIH Cooperative Agreements (U01 and U54)
- NIH Academic Research Enhancement Award (AREA) Grants – (R15)
- NIH Exploratory/Developmental Research Grant Award (R21)
- NIH Clinical Trial Planning Grant (R34) Program
- NRSA Institutional Research Training Grants (T32)
- NRSA Short-Term Institutional Research Training Grants (T35)
- NRSA Predoctoral Fellowship Minority Students (F31)
- NRSA Predoctoral Fellowship Students w/Disabilities (F31)
- NRSA Individual Postdoctoral Fellowships (F32)
- NRSA Senior Fellowships (F33)

Alphabet soup!

- K - implies career development grant
Mentored, individual awards
- R - implies research grant
- U - implies cooperative agreement
- T - implies training grant
- F - implies fellowship
- P - implies project grant

Example: R13 is a conference grant. U13 is a conference cooperative agreement.

Examples

- NAMIC (NCBC) - U54 with NIBIB
- LIDC - U01 with NCI
- MIP - P01
- BTRCs - P41 with NCRR
- P50 - Center for Systems Biology

Go to:

Computer Retrieval of Information on Scientific Projects
<http://crisp.cit.nih.gov>

also

<http://grants.gov>

Notes:

R21/R33 - Technology development programs

Can be two linked grants... when the R21 finishes, the R33 can be automatic.

Not renewable

Short - R21 is at most 3 years

U01 and U54s - Cooperative agreements

Uncooperative agreements?

Why? When you see NIH coming, it means more work!

NIH doesn't contribute value, just administration, so why cooperate?

Pis want to be left alone, and thus resist direction from NIH.

A GOOD cooperative agreement - both NIH and PI contribute.

P20 - Center planning grants

BISTI and the NIH Roadmap ran P20 grants

Significant difference between Center of Excellence and Program of Excellence - EDUCATION component.

P41 - Centers of Excellence

require site visits

Big projects - lots of administration, almost not worth the trouble.

R01 - renewable, individual, PI-guided

Notes (continued):

1. R13 - Conference grant

1. Reviewed internally within an institute.
2. Possibly multiple years.
3. Up to \$30K. Takes almost a year to obtain funding.

2. SBIR - Small Business Innovation Research

1. Submitted by a Small Business
2. Usually linked with a university program.
3. Phase 1 v. Phase 2

3. STTR - Small Business Technology Transfer Research

1. Submitted by a university program.
2. ALWAYS linked with a small business
3. Phase 1 v. Phase 2

4. See: <http://www.zyn.com/sbir/>

Peer Review of NIH Support Mechanisms

Who Reviews What ?

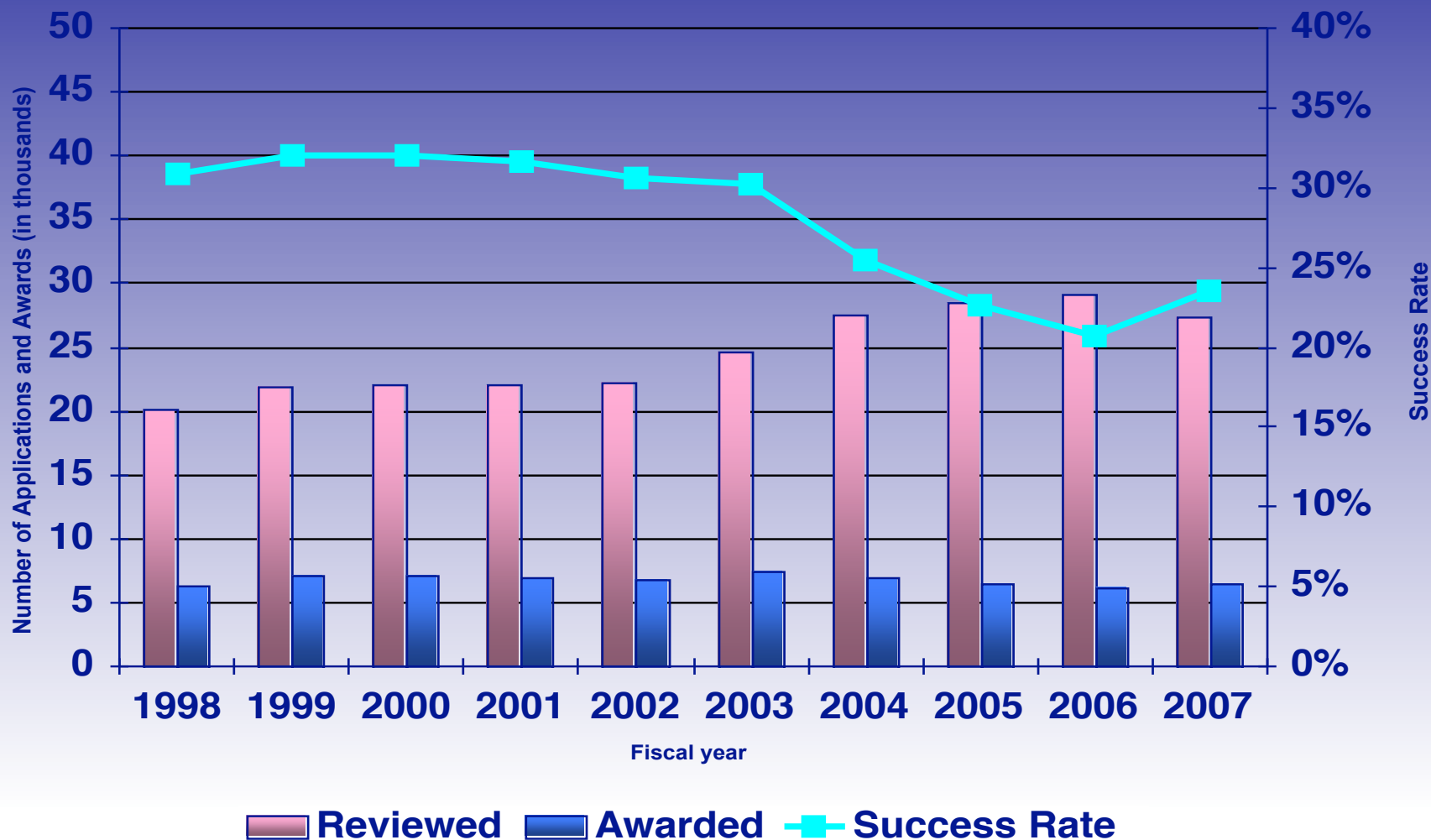
CSR

Research Project Grant (R01)
Postdoctoral Fellowship (F32)
Senior Fellowship (F32)
Fogarty International Center
Fellowship (F05, F06)
Short-Term Training (T35)
Small Business Grants (R41, R42
R43, R44)
Academic Research Enhancement
Award (R15)
Biomedical Research Support
Shared Instrumentation
Grant (S10)

Institutes

Program Project Grant (P01)
Center Grant (P30, P50, P60)
Institutional Fellowship (T32)
Academic Career Award (K07)
Mentored Clinical Scientist
Development Award (K08)
Conference Grant (R13)*
Marc Fellowships (F34, F36, T34)
Minority Biomedical Support
Grant (S06)
Resource Grant (P40, P41, R24,
R26, R28)
RFA - Request for Applications
R&D - Contracts

NIH COMPETING R01-EQUIVALENT* APPLICATIONS: TRENDS IN NUMBER, AWARDS AND SUCCESS RATES: FY 1998-2007



* R01-Equivalent Grants include R01, R23, R29, and R37 mechanisms

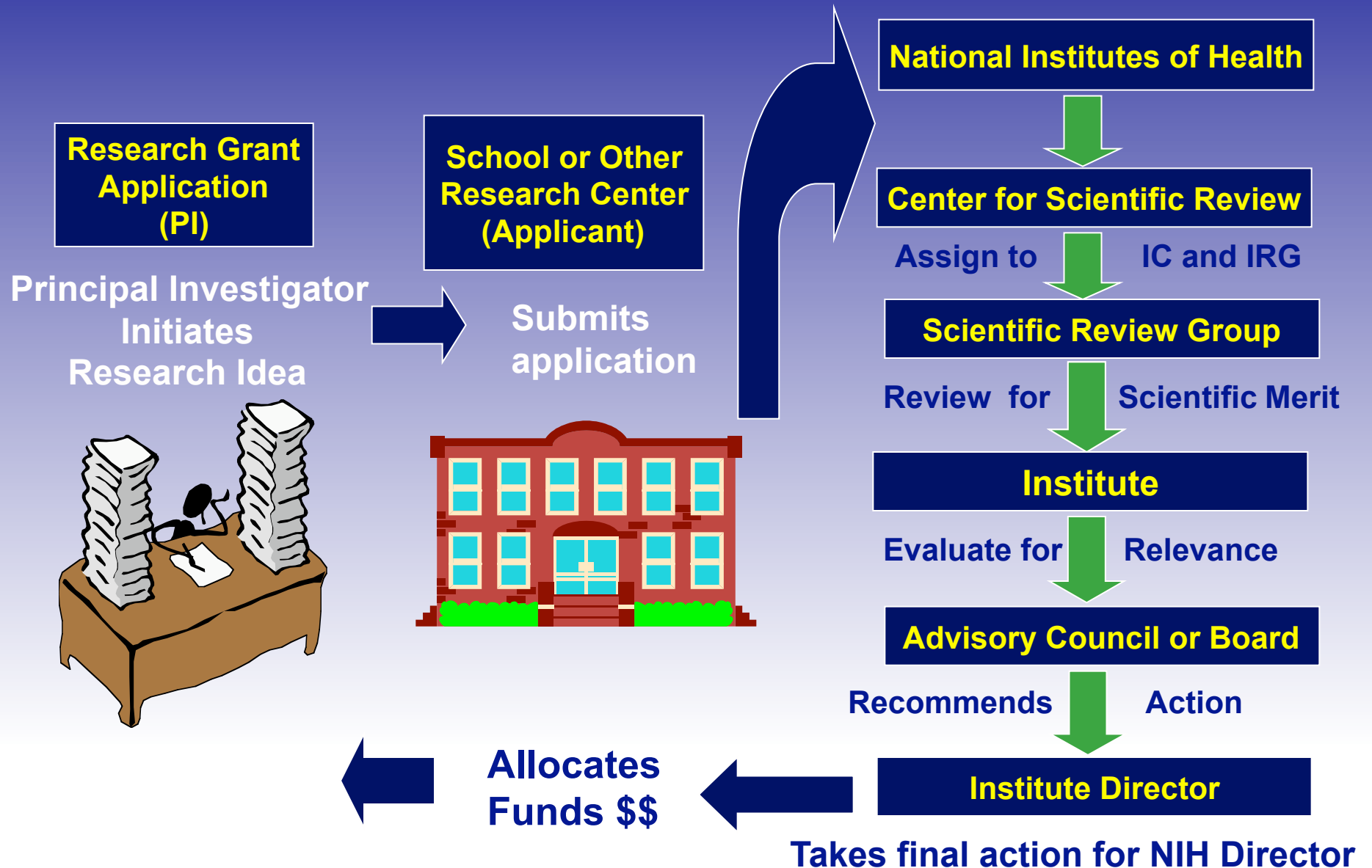
The best way to predict the future
is to invent it.

- *Alan Kay*

Care and Feeding of the Young Grant Proposal

1. Normal pathway for a grant proposal
2. Roles of NIH
3. Roles of PI
4. Ways you can help in process
5. Things not to do

REVIEW PROCESS FOR NIH RESEARCH GRANTS



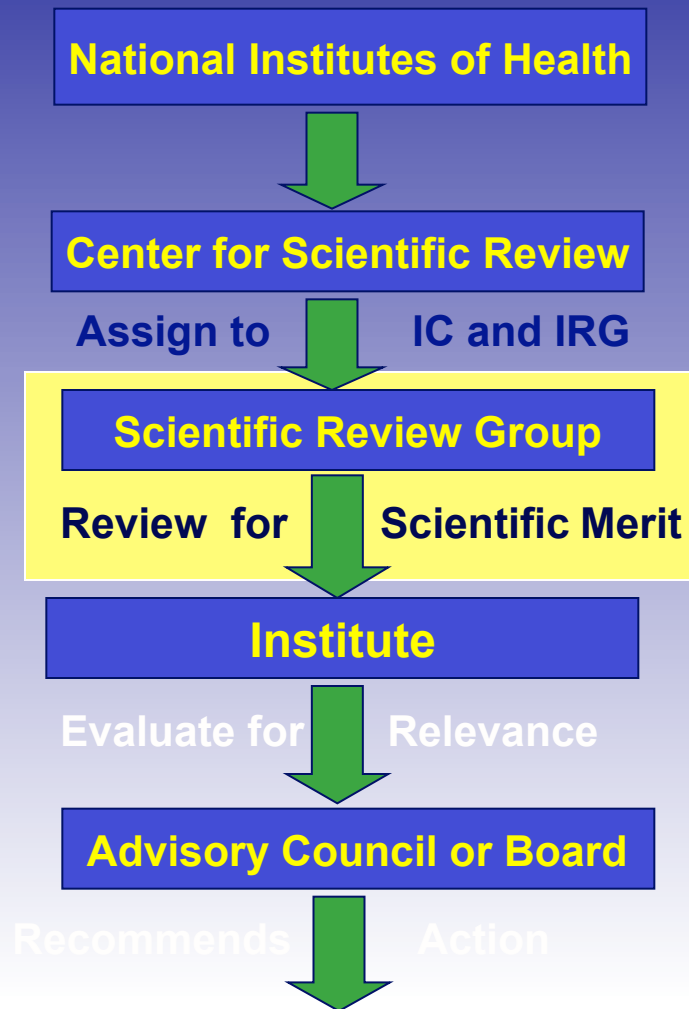
Applications Submitted to NIH

1. Approximately 80,000 grant applications were submitted to NIH in FY2003, of which 25-30% are funded
2. Competing grant applications are received for three review cycles per year
3. Applications are now sent online:
grants.gov



STANDARD RECEIPT DATES AND REVIEW AND AWARD CYCLES

TYPES OF APPLICATIONS			
	CYCLE I	CYCLE II	CYCLE III
Application Receipt Dates *			
All (new, competing, revised, and supplemental) Program Project and Center Grants	February 1	June 1	October 1
Competing Continuation, Supplemental, and Revised Grants	March 1	July 1	November 1
Individual NRSA (Standard) ***	April 5	August 5	December 5
Review and Award Schedule			
Scientific Merit Review	June-July	October-November	February-March
Advisory Council Review	September-October	January-February	May-June
Earliest Project Start Date	December	April	July



IRG = SRG = Panel = Study Section
Conducts the scientific review

Primary Reviewer
Secondary Reviewer
Reader

Closed ballot for scores

Reviews are penned before
(Score can seem disconnected)

Others in room, but non-voting

CSR Study Sections



1. Each CSR standing study section has 12-24 members who are primarily from academia
2. CSR standing study sections convene face-to-face meetings
3. As many as 60-100 applications are reviewed by each study section

Perceived Study Section



CSR Standing Study Sections

CSR - Roster Index			
http://www.csr.nih.gov/Roster_proto/sectionl.asp			
Getting Started Latest Headlines			
national institutes of health			
center for scientific review			
home contact csr staff directory			
about csr news and reports peer review meetings resources for applicants			
Links to Other categories of Roster			
Fellowship SBIR/STTR All Other Study Sections			
Last Updated: 2/25/2008 7:25:03 PM			
Roster Index for Regular Standing Study Sections and Continuing SEPs			
Below is an alphabetical listing of CSR-regular standing study sections by acronym. The acronym is linked to the current and two prior meeting rosters, and membership roster, when available.			
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z			
Study Section Acronym	Study Section Description	SRO (EMAIL)	
ACE	AIDS Clinical Studies and Epidemiology Study Section	HILARY SIGMON	
ACTS	Arthritis, Connective Tissue and Skin Study Section	AFTAB ANSARI	
ADDT	AIDS Discovery and Development of Therapeutics Study Section	SHIV PRASAD	
AED	Anterior Eye Disease Study Section	JERRY TAYLOR	
AICS	Atherosclerosis and Inflammation of the Cardiovascular System Study Section	LARRY PINKUS	
AIP	AIDS Immunology and Pathogenesis Study Section	SHIV PRASAD	
AMCB	AIDS Molecular and Cellular Biology Study Section	KENNETH ROEBUCK	
AOIC	AIDS-associated Opportunistic Infections and Cancer Study Section	EDUARDO MONTALVO	
APDA	Adult Psychopathology and Disorders of Aging Study Section	ALFONSO LATONI	
ASG	Aging Systems and Geriatrics Study Section	FRANCOIS BOLLER	Top^
AUD	Auditory System Study Section	EDWIN CLAYTON	
BACP	Bacterial Pathogenesis Study Section	RICHARD KOSTRIKEN	
BBM	Biochemistry and Biophysics of Membranes Study Section	NURIA ASSA-MUNT	
BCHI	Biomedical Computing and Health Informatics Study Section	BILL BUNNAG	

CSR Standing Study Section Rosters

CSR - Membership Roster - BMIT

http://www.csr.nih.gov/Roster_proto/member_roster.asp?srg=BMIT&SRGDISPLAY=BMIT

Getting Started Latest Headlines

national institutes of health
center for scientific review

home contact csr staff directory
news and reports about csr peer review
meetings resources for applicants

Membership Roster - BMIT

BIOMEDICAL IMAGING TECHNOLOGY STUDY SECTION
Center For Scientific Review
(Terms end 6/30 of the designated year)
ROSTER

CHAIRPERSON

LINKS, JONATHAN M., PHD, (08)
PROFESSOR
DIVISION OF TOXICOLOGICAL SCIENCE
SCHOOL OF PUBLIC HEALTH
JOHNS HOPKINS UNIVERSITY
BALTIMORE, MD 21205

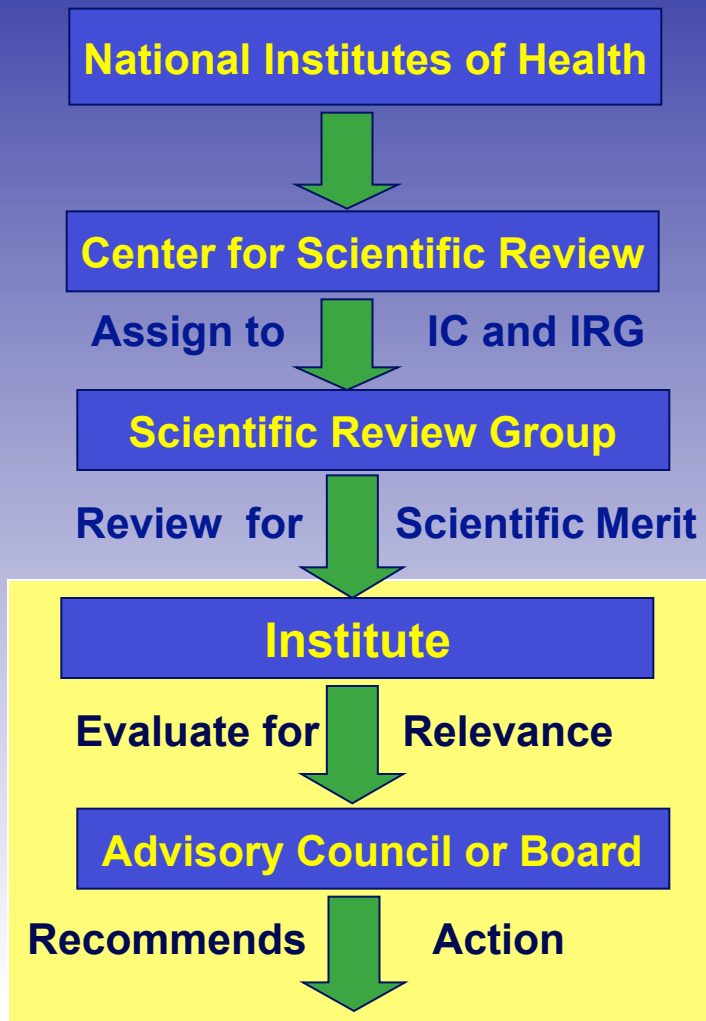
MEMBERS

BIGIO, IRVING J., PHD, (11)
PROFESSOR
DEPARTMENT OF BIOMEDICAL ENGINEERING
COLLEGE OF ENGINEERING
BOSTON UNIVERSITY
BOSTON, MA 02215

BRADLEY, WILLIAM G., MD, PHD, (08)
PROFESSOR AND CHAIRMAN
DEPARTMENT OF RADIOLOGY
UNIVERSITY OF CALIFORNIA, SAN DIEGO
SAN DIEGO, CA 92103

CLEARY, KEVIN R., PHD, (09)
ASSOCIATE PROFESSOR
DEPARTMENT OF RADIOLOGY
IMAGING SCIENCES AND INFORMATION SYSTEMS CENTER

PRINTER FRIENDLY



Institute Council makes funding decision

Score
Relevance
Mission concerns

Program Officer often in room,
but non-voting

If you win: you get an award letter

1. Start date might be flexible

At times sooner is better for the Institute

2. If you don't win: you get a sad letter

Revise or start over?

Introduction is key

(3 pg summary of revision)

**AS OF 2009 - APPLICANTS ARE ONLY PERMITTED A
SINGLE RESUBMISSION!**

So who are the people who help you through this process at the NIH?

1. Program Officer
2. SRA

Your number one goal must be to become a face or name, rather than a proposal number!

How do you decide where to send your grant?

- Many institutes to choose from
Which one is right?
 - Look at mission statements of likely institutes
 - Does your research fit?
- Is there a PA or RFA on your research area?
How to find out about these?
 - Use the NIH website to search them
 - www.nih.gov
- No PA or RFA? OK if no RFA (“Investigator Initiated” R01)
- Which institute(s) is right?
 1. Mission statements
 2. How to narrow them down?
 - Look at portfolio for those institutes
 3. Perhaps it is better not to narrow them down
 - Double listing can be best
 - Paylines and priorities differ
- Speak with Program Officers

Regarding NIH...

If it was up to the NIH to cure polio through a centrally directed program instead of an independent investigator driven discovery, you'd have the best iron lung in the world, but not a polio vaccine.

Samuel Broder

Former Director of the National Cancer Institute

Ask ADVICE from the Program Officer

- Tell him/her about your research goals
 - What type of grant are you going for?
- Ask:
 - Is this the right institute?
 - Should I have a dual funding assignment?
 - What study section would be good for my grant?
 - Any comments on the science?
- How are new PIs helped?
 - On your PHS398, check the box for new investigators
You are new until you get your first RO1, smaller grants don't count
 - If you have a good relationship with Program officer and he/she needs your app to fill in a gap in his portfolio
You might get rescued from the no fund pile and put in for funding even with a worse score than others

Your number one goal must be to become a face or name, rather than a proposal number!

Investigate study section

- Make sure that someone on that panel knows your field and the techniques you will be using
- If no one is available on panel
 - Once you get your SRA and study section assignment, write a letter asking for someone in a particular field or area of expertise to be added to the study section

CSR personnel decide Institute & study section

1. From your cover letter, keywords and abstract
(remember your abstract will go on CRISP once you are funded...
so be discreet about prelim results and details)
2. Your cover letter can have a big impact
 - Present rationale for a particular request
 - Suggest, don't demand
 - Whenever plausible request double assignment (allows two different Councils to consider your grant application)
3. Program Officer assigned in Institute
May have been defined in RFA or RFP
4. SRA goes with the Panel

What not to do?

1. Never Demand
2. Never ask for snap decision (ask advice)
3. Never contact IRG members!
4. Never assume that the IRG member you don't like did you in in the meeting.
5. Never ignore comments, even from “stupid” reviewers

REVIEW PROCESS FOR NIH RESEARCH GRANTS

