

PROVIDING SCIENCE ADVICE TO GOVERNMENTS

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IIASA Young Scientists Summer
Program

Laxenburg, Austria August 8, 2007

Three Science Advisory Positions

- White House OST
- S&T Adviser to Secretary of State
- Director of AAAS Center for Science Technology and Security Policy

• Three Branches of US Federal Gov't.



-Executive

- Requests money
- Spends money



-Legislative

- Appropriates money
- Writes laws



•Judicial

- Interprets laws

The Executive Branch implements policy set by an administration and laws passed by Congress

Done through a variety of agencies

Some have cabinet secretaries as head

State, Defense, Labor, Energy, Homeland Security, Health and Human Services, etc

Some do not

National Science Foundation, Agency for International Development, Office of the US Trade Representative

Executive Office of President (NSC, HSC, EQC, Vice President's Office)

Congress has two Houses (bicameral)

House

435 voting members, ~1 / 650,000 people

4 additional non-voting delegates

District of Columbia

Guam

U.S. Virgin Islands

Puerto Rico

202 Republicans, 231 Democrats, 2 Vacancies

Senate

100 members, two for each state

49 Republicans, 49 Democrats, 2 Independents

How does Congress make decisions?



Relevant Subcommittee and Committees will have hearings

Hearings generally only last a few hours

Typically have 1-6 witnesses

Rarely get more than a handful of Members at a hearing

Members will specialize in different topics

They follow each other's leads on certain topics

So many issues come before a typical Congress that each Member doesn't have time- or even staff time- to become expert in them all

There is another problem...

Vast majority of Senators and Representatives are lawyers, not scientists, doctors, or much else

Further, only few hundred of some 12,000 staffers on the Hill have any science or engineering background

☞ Neither Members nor staff scientifically sophisticated

Language a problem

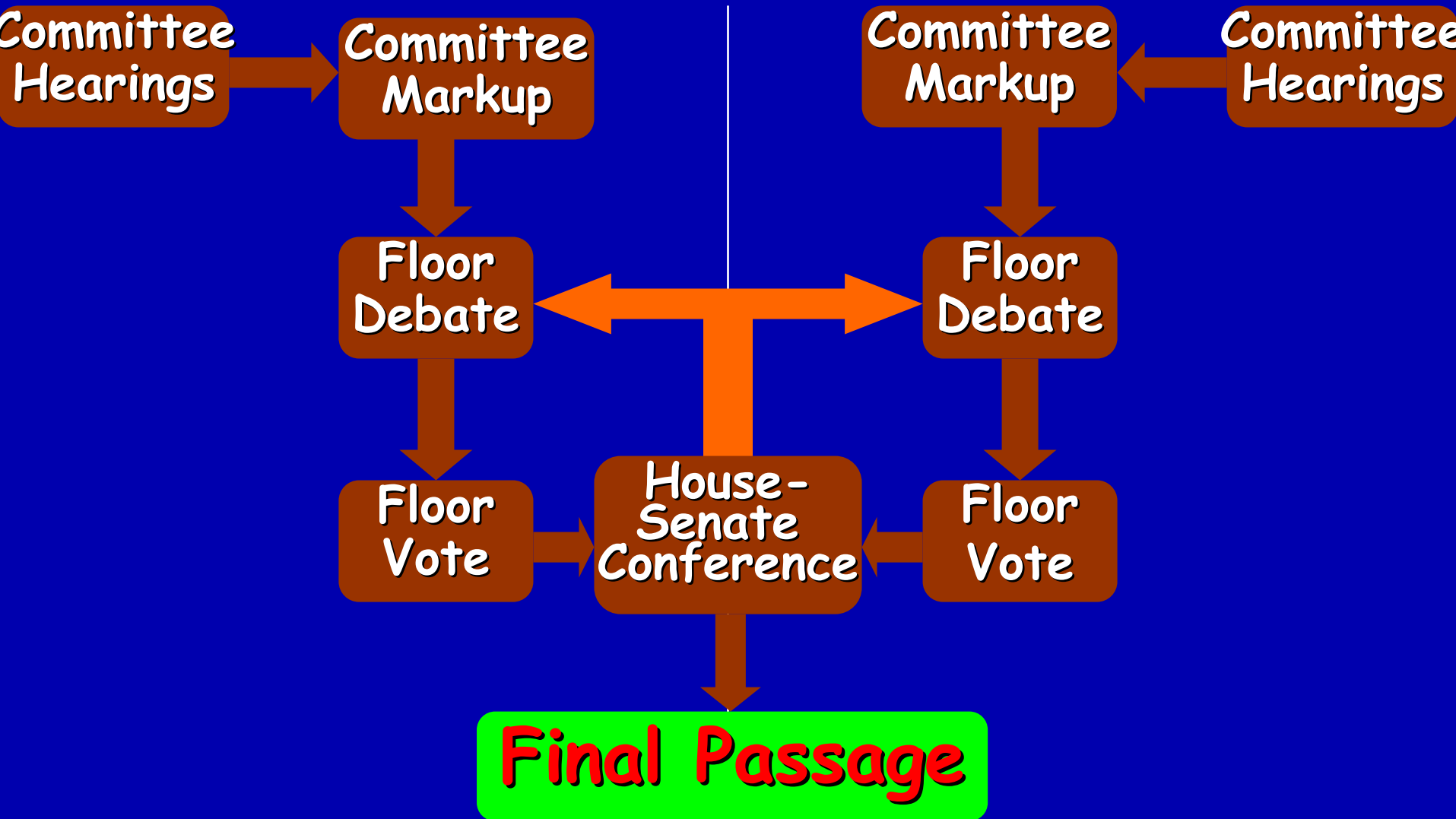
How scientists and engineers use language often different from how same words used in law

Making laws



House

Senate



The Center for Science, Technology and Security Policy

Norman Neureiter, Director

Benn Tannenbaum, Project Director

Kavita Berger, Senior Program Associate

Josette Sayegh, Webmaster

Beola Lenard, Coordinator

Summer Interns: Bernard Bluhm, Do Yon Kwon

Allison Lynch, Aaron Siirila

CSTSP CONCEPT

- Part of MacArthur's Science, Technology and Security Initiative
 - \$50M over 6 years
 - Key goal to develop new cadres of scientists working on security policy issues and provide useful inputs to national policy formation
- To serve as smart, two-way portal between research on science and security in academic and other policy centers and Washington policy community
 - Provide objective S & T information and advice to Congress and executive branch agencies
 - Provide a Washington base for academic visitors
 - Help place post-docs, fellows and interns into Washington policy positions

CSTSP CONCEPT

To serve as a smart, two-way portal between the research on science and security in academic and other policy centers and the Washington policy community

- Provide objective S & T information and advice to Congress and executive branch agencies

- Coordinate efforts among academic centers

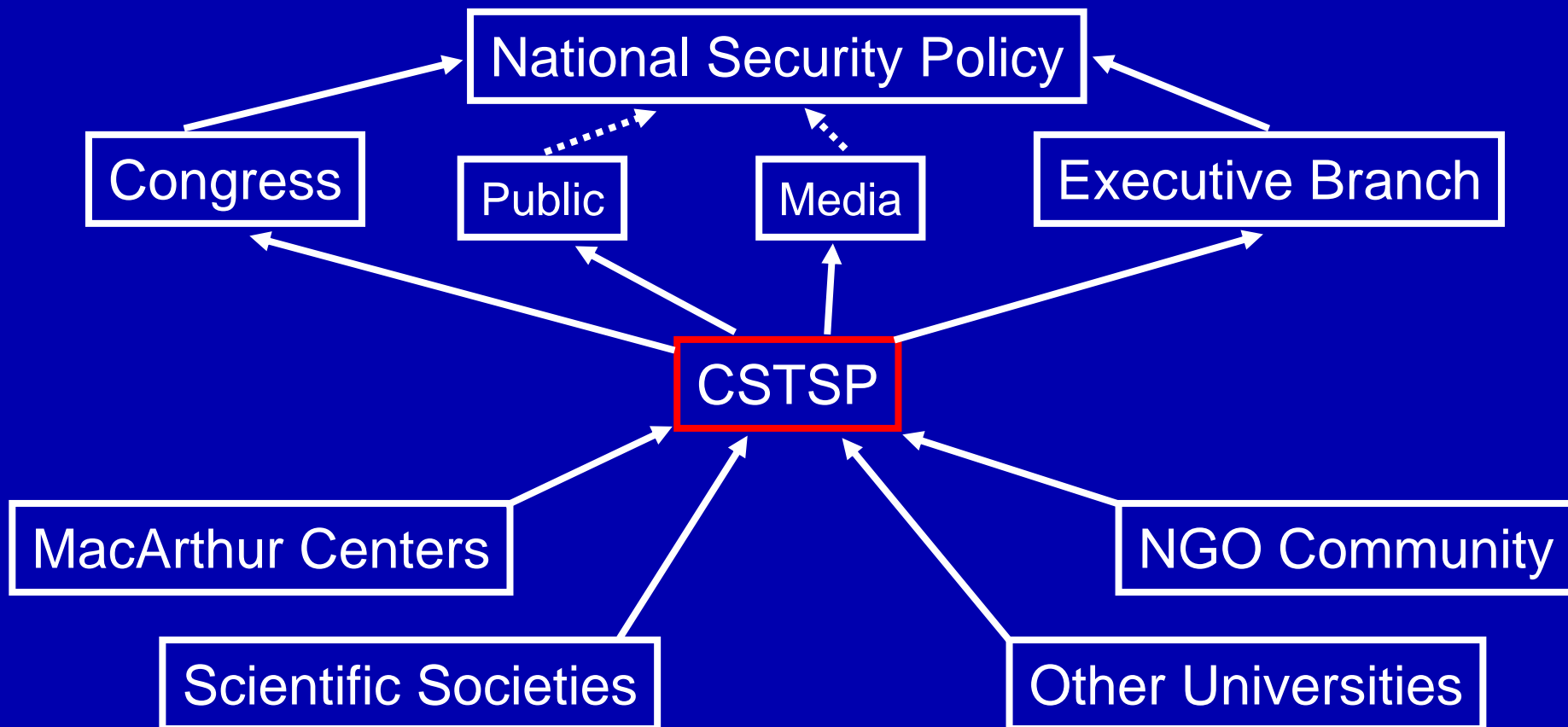
- Update centers on Washington issues

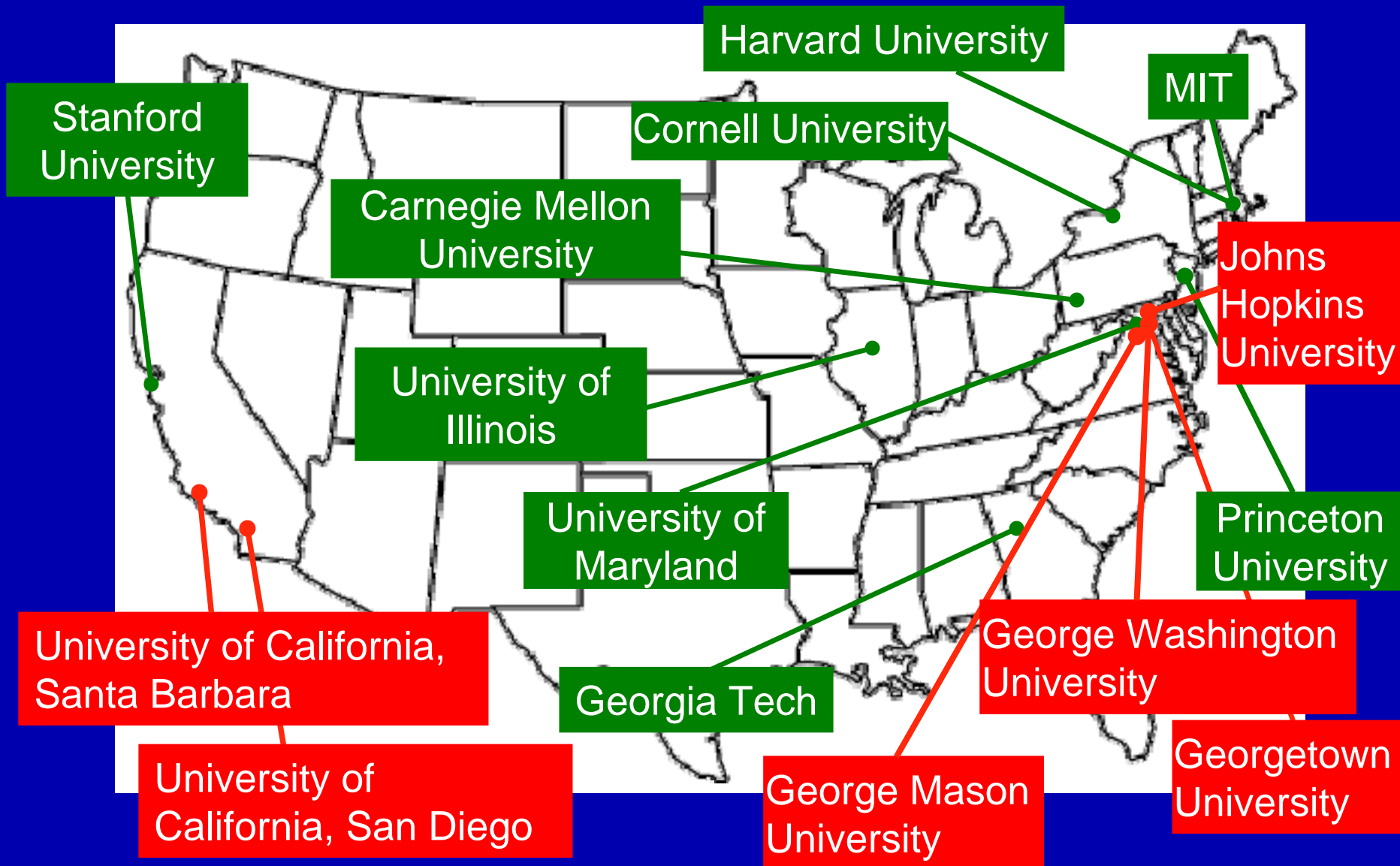
- Provide a Washington base for academic visitors

- Help place post-docs, fellows and interns into Washington policy positions

Goal is to achieve more effective science and technology inputs into US national security policy

UNDERSTANDING THE CSTSP UNIVERSE





CSTSP as Marketing and Sales Organization

Suppliers

- MacArthur Centers
- Other Universities
- NGOs
- National Academies/
National Research
Council
- Federal Labs
- DHS and HHS
- University Centers of
Excellence

Product

**Substantive,
High-Quality &
Nonpartisan
S&T Information**

Product Support

- Media (Harry Disch)
- Public Fora
- Films
- Presentations
- Policy Briefs

Market

- Congress
- Senate
- 11 Committees
- House
- 12 Committees
- Members & personal staff

- Executive Branch
- Dept. of State
- Dept. of Homeland Security
- Dept. of Energy
- Dept. of Defense
- Dept. of Agriculture
- Nat'l. Institutes of Health
- Nat'l. Security Council
- Homeland Security Council
- DNI/CIA/FBI/NRO/NIC

Congressional Committee Overview

House

Agriculture
Appropriations
Armed Services
Energy and Commerce
Foreign Affairs
Homeland Security
Judiciary
Oversight and Government Reform
Science and Technology
Transportation and Infrastructure
Veterans' Affairs
Select Intelligence

Senate

Agriculture, Nutrition, and Forestry
Appropriations
Armed Services
Commerce, Science, and Transportation
Energy and Natural Resources
Foreign Relations
Health, Education, Labor and Pensions
Homeland Security and Governmental Affairs
Judiciary
Veterans' Affairs
Select Intelligence

How do we inject science into the process?

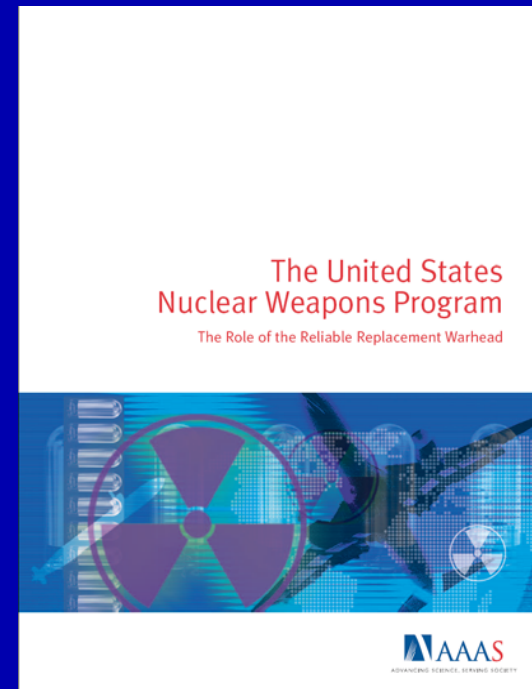
- Work through a variety of means
 - One-on-one meetings with Congress/agency staff
 - Expert panels
 - Luncheon discussions
 - Off-site meetings
 - Press briefings
 - Public events

Lunch Discussions for Congressional Staff

- Time lunch discussions to either relevant legislation or release of important reports
- Briefings topics include the US-India nuclear cooperation agreement, Prompt Global Strike, the nuclear fuel cycle, nuclear terrorism, lessons from the de-nuclearization of Brazil and Argentina, U.S. nuclear weapons policy, the Reliable Replacement Warhead, the use of modeling and the social sciences to combat insurgencies, communication and coordination in an agricultural or food emergency, and agricultural biosecurity
- Attendance is usually 50 - 100 staffers

RRW Expert Panel

- CSTSP created panel to examine some technical aspects of the Reliable Replacement Warhead program
- Main Conclusion: RRW *may* be prudent, but much work, *especially in policy realm*, needs to be done first



Other discussions

- Public Health Preparedness Seminar Series (Co-sponsor: Security for a New Century [Stimson Center])
 - Infectious diseases
 - Public health surveillance
 - Vaccines
 - First responders
- 2-day Hill & Agency staff retreat at Wye River on biosecurity and public health
- 1-off meetings for State Dept. on biosecurity
- 1-day meeting on synthetic biology

Structured Media Briefings

- Purpose is to use media to influence policy
- Co-hosted, with Center for Media & Security
 - 2-3 scientists brief 10-15 members of the media
 - Topics include biosecurity/codes of conduct, cybersecurity, space debris & security, wiretapping/eavesdropping, Trident conversion and CTR status, and costs of improvised nuclear weapons

The Public

- Intent is to use public opinion to influence policy
- Conversations:
 - Robert Ebel on mid-East oil
 - Ambassador Ken Brill on S&T, intelligence, and counterproliferation
 - Former Iranian Deputy Minister for Science Reza Mansouri on S&T needs in the Muslim world
- *The Battle of Algiers*
 - Discussion with David Ottaway

What's a Fellow?



There are also American Association for the Advancement of Science (AAAS) Science & Technology Fellows

31 year old program; 1700 total Fellows!

Most recent years have seen ~100 new AAAS Fellows

All have the highest degree possible in their field

Some have more than one- there are a couple PhD/JD, PhD/MD, types...

Vast array of fields represented

Physical Sciences: Physics, Chemistry, Geology, Materials Science

Biological Sciences: Biology, Medicine, Food Science, Veterinary Medicine, Agriculture, Primatology

Social Sciences: Communications, Sociology, Anthropology, Psychology

Engineering: Electrical, Civil, Mechanical, Nuclear

RRW Expert Panel

- CSTSP created panel to examine some technical aspects of the Reliable Replacement Warhead program
 - Chaired by Bruce Tarter, director emeritus of LLNL
 - Other members include other former lab directors, DOE Undersecretary, DOE comptroller, weapons designers, DOD science advisors, etc
 - 3 meetings to date— 2 at AAAS and one at LLNL
 - Excellent briefings from NNSA, Labs, DOD, Congress, political scientists, etc

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Themes

- Most of our work falls into 5 main themes:
 - Nuclear Weapons / Nuclear Power
 - Space / Missile Defense
 - Cybersecurity
 - Biosecurity
 - Homeland Security / Terrorism

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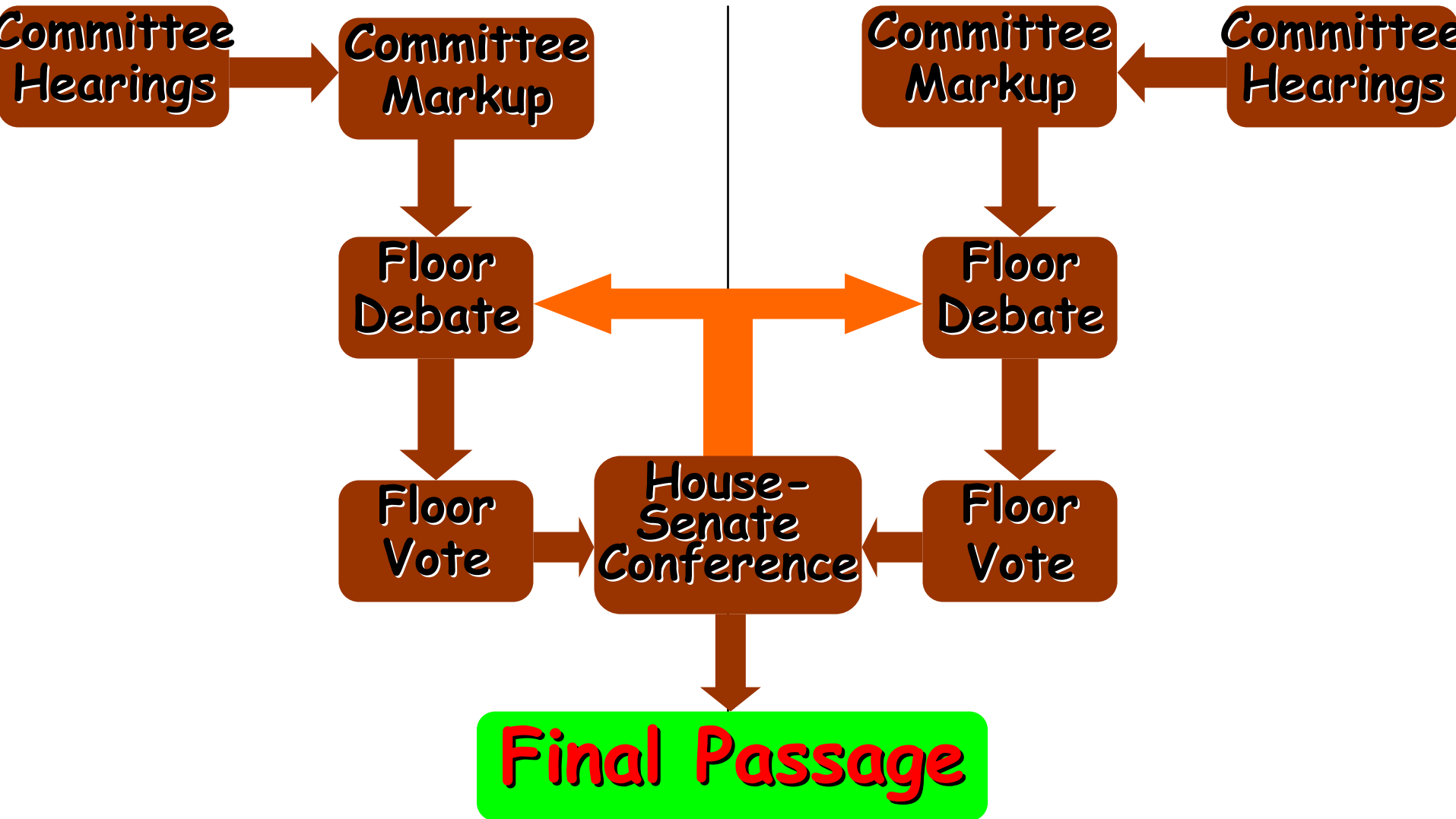
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How do you get to be a Fellow?



Applications due in January to AAAS or other sponsoring society

Two round selection process

3 week orientation session in September

Meet other Fellows

Learn how government works...

