Speaking truth to power:

CAREERS IN SCIENCE POLICY

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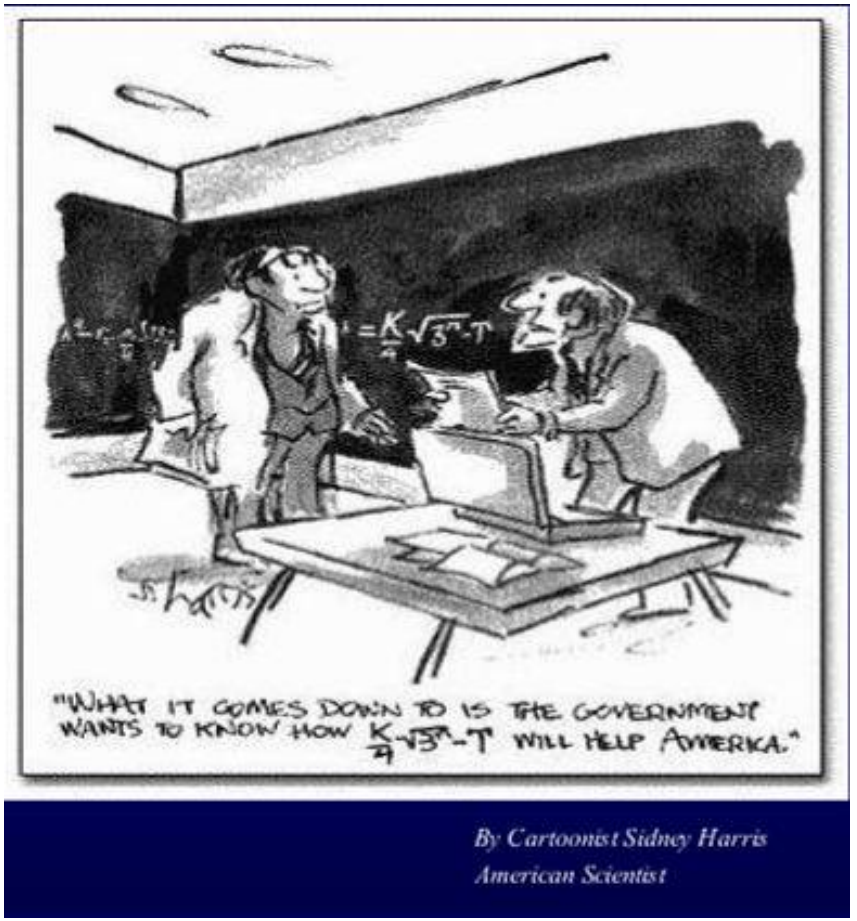
What is science policy?

Science policy is

concerned with the <u>incentives and the environment</u> for discovery and innovation.

science policy deals with the <u>effect of science and technology on society and considers how they can best serve the public</u>.

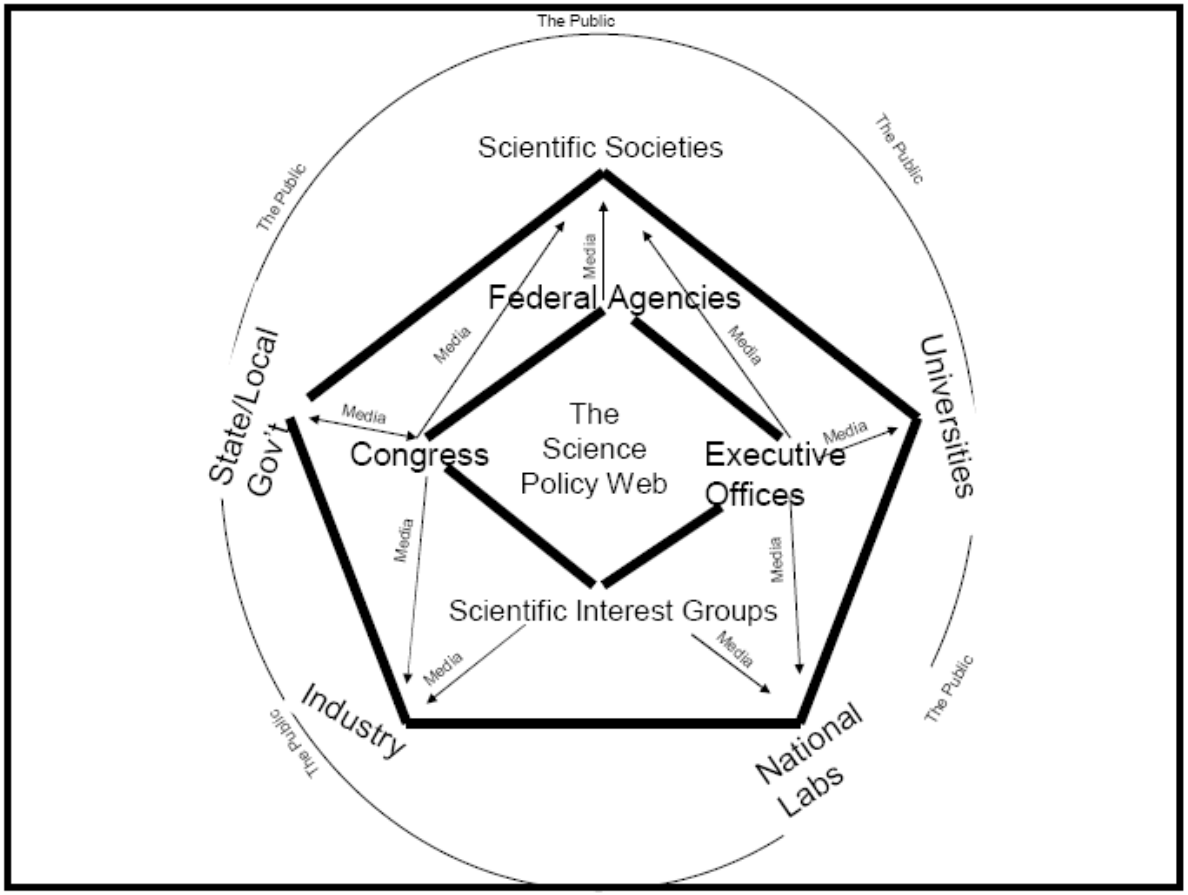
As such, it is highly visible, <u>value-laden</u>, and open to public debate."



What is science policy?

- Policy for science
  - Public policy concerning the structure and priorities of the scientific enterprise
- Science for policy
  - Use of scientific knowledge to facilitate or improve decision making

Where is science policy made?



- Congressional Committees
- White House
  - Office of Science & Technology Policy
  - Office of Management & Budget

Roles for Scientists in policy

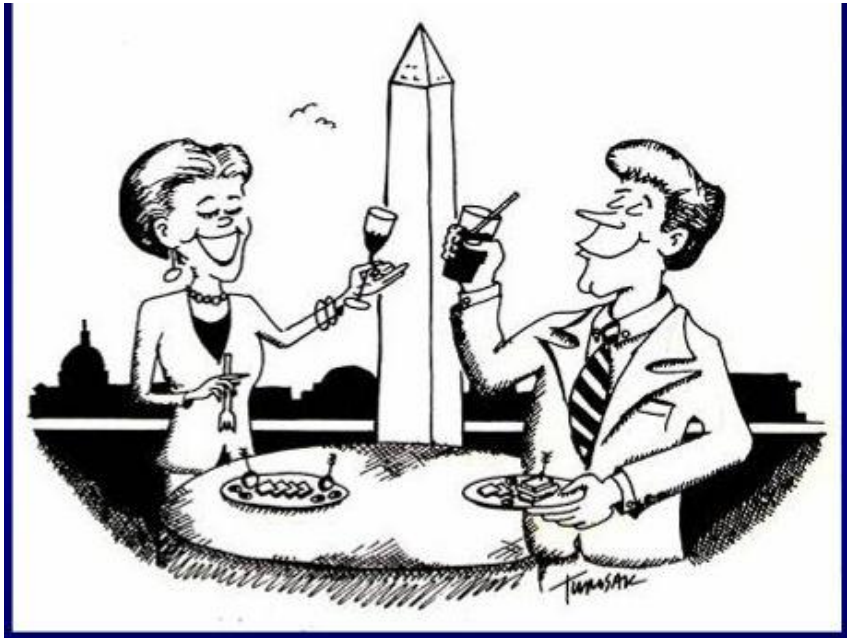
Less political

- Analyst
  - Collect relevant data, evaluate policy options
- Project manager
  - Organize advisory committees, oversee technical contracts
- Liaison between technical & policy/public world
  - Communicate technical concepts to lay audience
  - Public relations

More political

- Advisor
  - Made recommendations to policy makers
- Diplomat
  - Other countries trust scientists a lot more than lawyers.
- Advocate / lobbyist
  - For science, health policy, energy policy, business
- Policy maker
  - Run for office, agency head

Two cultures: Politicians and Scientists



Two Cultures of Science and Politics

Science: any system of knowledge which attempts to model objective reality

Politics: *Competition between* ***competing interest groups or individuals for power*** *and leadership (as in a government).”*

Policy: *A course of action selected from among alternatives and in light of given conditions to guide decisions.”*

Two Cultures: Different approaches

SCIENTISTS	POLICY MAKERS
Numbers	Words
Objective Facts	Subjective/Public Opinion
Hate to make promises	Love to make promises
Quantitative	Qualitative
Technical	Political
Problem seeking	Issue seeking
Ask why	Ask why they should care
Background: Science	Background: English, history, law
Money = research	Money = reelected
Think long term	Think short term
Public avoidance	Love public eye
Science page	Front page
Specialist	Speak broadly

Adapted from Toby Smith

So why would you do it?

- Fit your expertise into the “big picture”
- Opportunity to impact a lot of people
  - Tobacco regulation at FDA
  - Recycling on national mall
  - Steer the direction of science
- Power
- Your expertise is appreciated!
- Generally decent money and hours
  - To start – GS 12/13, ≥ $75K

Characteristics for success

- Systems thinker
- Problem solver, not just a problem spotter
- Interest in current events
- Project management
- Diplomatic
- People skills
  - Networking!!!
  - Communication skills
    - Succinct writing
    - Elevator speech
    - Read people – what didn't they say?

Where can you work? On the inside

- Federal government
  - Congress
  - Congressional Research Service
  - Executive Branch
    - Office of Science & Technology Policy
    - NSF
    - NIH
    - Health & Human Services
    - State Department
    - US Agency for International Development
    - Office of Naval Research
- International organizations
  - World Bank
  - UN
- State
  - California?
- City
  - Economic development
- Business
  - Internal R&D policy

Where can you work? On the outside

- Universities
  - Science policy research centers
  - Federal relations
  - Administration (eventually)
- Foundations
  - Howard Hughes, Kauffman
- Scientific Societies
- NGO's
  - Prize 4 Life
- Think tanks or science policy research institutes
  - RAND, Brookings
- Lobby shops
  - Represent business or citizen interest groups

Do you need to do policy-relevant research?

- Helpful, but not necessary
- Ph.D. = genius
- They do not know the narrowness of your expertise!
- Even policy-relevant research not that relevant
- Reinvent yourself!

Do you need a Ph.D.?

- Most people who make science policy don't have Ph.D.'s
- The credentials are useful even though the skill set isn't ideal for policy
- Few roads to science policy career from bachelor's-level science degree.

When should you make the career shift?

- Now
- After grad school
  - Pro: Eligible for policy fellowships, know all the science you need to know
  - Con: You're not going to be top dog; Close door to academic career?
- Alternative to tenure
  - Pro: More respect as "professor;" Maybe better position; Good plan B.
  - Con: "Waste" time in the academic rat race.
- After you win a Nobel Prize
  - Pro: Leadership position; People will listen to you; Good change of pace.
  - Con: Lab experience doesn't improve policy savvy
- Try it for a year…

Making the transition – learning

- Read
  - News and policy sections in Science and Nature
  - Sign up for science policy newsletter from AAAS
  - Issues in Science & Technology Policy
  - *Beyond Sputnik: US Science Policy in the 21st Century*
  - Washington Post, NY Times, Economist
- Find a mentor!
- Attend seminars in different areas to broaden your expertise
- Attend Conferences
  - AAAS annual meeting
  - Gordon Conference on Science & Technology Policy

Making the Transition – Gain experience & demonstrate interest

- Leadership & organizing experience
- Advise a policymaker
- Write policy-relevant essay or op-ed
- Take a class
- Present a poster at a conference

Network!!!

- Get business cards
- Attend events, meet people, follow up
- Informational meetings / lunches
- Tell people what you want to do
- Ask for referrals
- Two-way street
  - Send info
  - Connections

Making the transition - formal training

- Postdoc in public policy, bioethics, science & technology studies
- MS in science and public policy
- Where?
  - George Washington University
  - MIT
  - Harvard – Belfer Center
  - Princeton
  - University of Minnesota
  - Georgia Tech
  - University of Michigan

Making the transition – just do it

- National Academies Christine Mirzayan Policy Fellowship
- IIASA (Int'l Institute Applied Systems Analysis) summer fellowships, Vienna
  - Health and global change
  - Risk and vulnerability
  - Transition to new technologies

- AAAS (and other society) S&T Policy Fellowships
  - Congress
  - Executive Branch
- Genetics and public policy fellowship - NHGRI/Congress/ASHG
- Fellowships at scientific societies
- Presidential Management Fellowship
- S&T Policy fellowships in California?
- American Association of Arts & Sciences, Boston

Programs

Science & Public Policy

Fellowships
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AAAS Science & Technology Policy Fellowships

Plug the Power of Science into Public Policy

The online application system for the 2008-2009 fellowship year is now closed. The system will reopen September 2008 for the 2009-10 fellowship year.

The Fellowships help to establish and nurture critical links between federal decision-makers and scientific professionals to support public policy that benefits the wellbeing of the nation and the planet. The Fellowships are designed to:

- educate scientists and engineers on the intricacies of federal policymaking;
- provide scientific expertise and analysis to support decision-makers confronting increasingly complex scientific and technical issues;
- foster positive exchange between scientists and policymakers;
- empower scientists and engineers to conduct policy-relevant research and other activities that address challenges facing society; and
- increase the involvement and visibility of scientists and engineers in the public policy realm.

The Fellowships support the AAAS objectives to improve public policymaking through the infusion of science, and to increase public understanding of science and technology and are part of AAAS Science & Policy Programs.

Are you a Former Fellow who wants to remain in touch with the AAAS Fellowship community?
If so, contact us at 202-326-6700 or fellowships@aaas.org to be added to the Former Fellows e-mail listserv.

• EVENTS

Visit us at our Spring Conferences: The AAAS S&T Policy Fellowships will be hosting the EPA STAR Fellows conference on **May 19th**. Click here for our 2008 Conference Participation Schedule.

Seminar archive

• HEADLINES

Join Emily Monosson, 1988-89 AAAS Fellow at the EPA, for a discussion of women, motherhood and the sciences at **Cornell University on May 9th at 12pm**. Accompanying her will be several other contributors from her recently published edited volume, *Motherhood, The Elephant in the Laboratory*. For more information, click here.

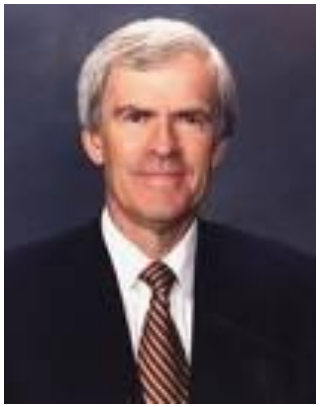
▶ More News

• ON THE MOVE

Maria Freire, 1984-86 BS/ASP Congressional Fellow, became President of the Lasker Foundation on March 1, 2008. Click here to read more.

▶ More Fellows on the Move

My fellowship experience



Senator Jeff Bingaman
(D-NM),
Chair, Energy and Natural Resources Committee

US Senate

- Health policy
  - Tobacco regulation
  - Stem Cells
  - FDA drug approval
  - Electronic health records
  - Nursing shortages
  - Surgeon general nomination
  - Nutrition policy
- Policy for Science
  - America COMPETES Act
  - Office of Technology Assessment
  - S&T Caucus Briefings
- Oversight
  - Use of science for policymaking
  - Recycling on National Mall

National Science Foundation, Directorate for Social, Behavioral, and Economic Sciences

- Implement COMPETES Act
- Interdisciplinary research policy
  - Sustainable Development
- Transformative research
- Broader impacts

What do AAAS fellows do?

- Write bills, plan hearings, advise members of Congress
- Lead international working group on nanotechnology
- GMO technology for Africa
- International intellectual property law
- National bird flu policy
- Bioterrorism preparedness
- Food safety policy
- International negotiations
- Science education policy
- Public relations for science agencies
- Policy for science
  - NIH roadmap
  - Tissue banking
- Health, environment, energy policy
  - Environmental regulation
  - Controlling invasive species
- Happy hours!
- Collaborate
- Go to events, training, etc

What do AAAS fellows do after the fellowship?

- 1/4 return to academia
  - I am… but retraining
- > 1/3 stay in federal government
  - MANY former fellows in Congress
    - Rep. Rush Holt
  - Senior Science Adviser, Office of Science Policy and Planning, National Institutes of Health
- 1/3 to other sectors
  - Special policy advisor to the executive director of the World Food Programme
  - Energy policy advisor, State of California
  - President, National Center for Policy Research for Women & Families
  - Program Officer, Science and Technology, Global Development, Bill & Melinda Gates Foundation
- Job changes are common

Advantages of spending time in DC…
even if you don't want to stay

- Federal policy affects everything
- Can't learn it in a book
- Get big picture view
- Crazy networking opportunity
- Others will expect federal experience

Start networking by contacting me!

- mroberts@nsf.gov
- roberts.m.r@gmail.com