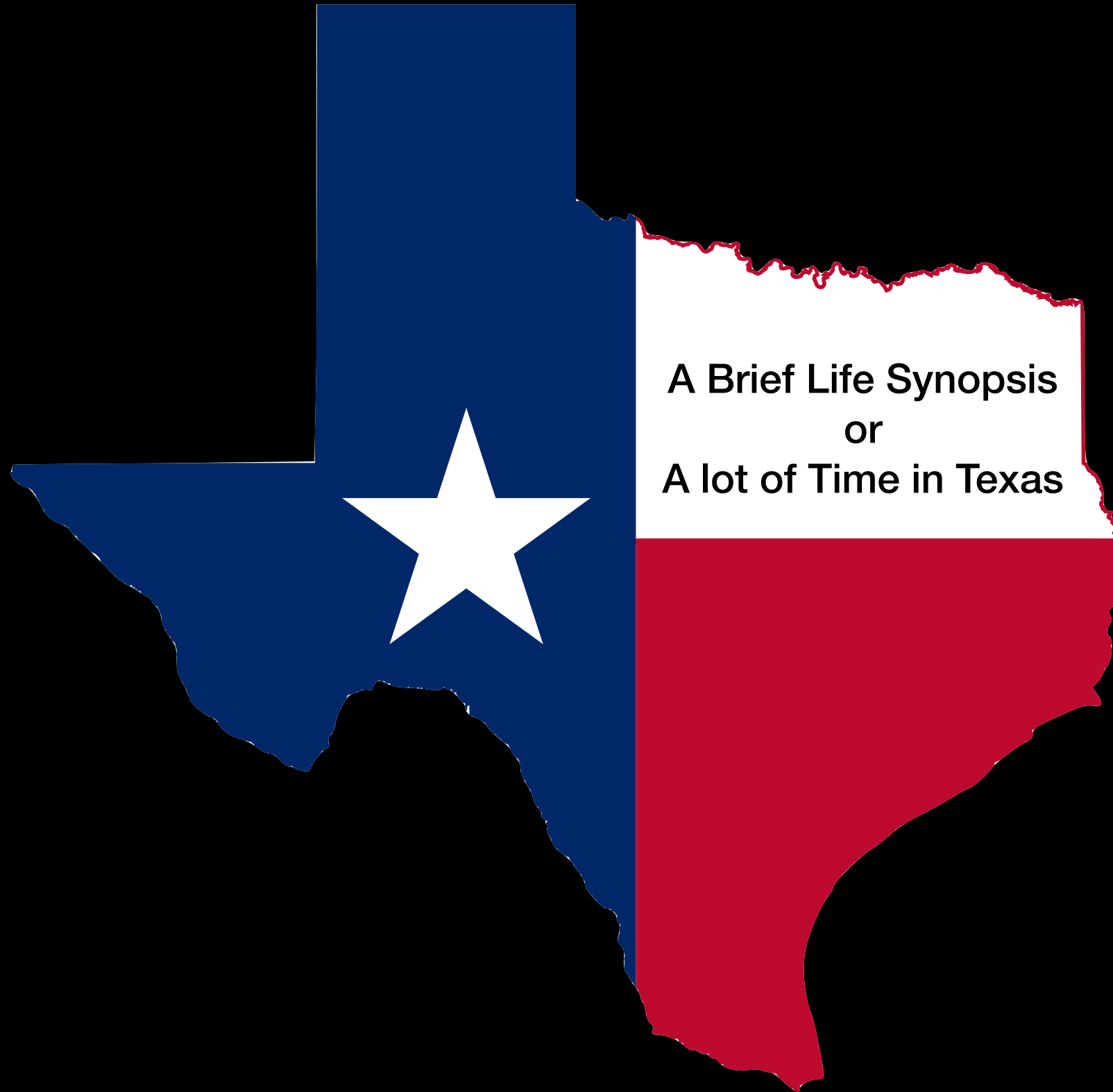


There and Back Again

An Astronomer's Travels from UT to DC and Back



A Brief Life Synopsis
or
A lot of Time in Texas

Undergraduate here at UT



PhD at Rice University in Houston



Non-Academic Careers

Bahcall Fellowship

- Congressional Visit Days
- Launched a blog
- Wrote monthly column
- Learned a lot of process knowledge about institutions and their relationships. (Structure of Congress, role of the Academies, nature of Budget process)
- Key to winning fellowship: activism in Graduate Student Association

Congressional Fellow

- Did not want work on astronomy/physics
- Rep. Grijalva was on Natural Resources committee (chair of a subcommittee)
- Public Lands, Hoover Dam, Deepwater Horizon



Department of Energy

- Worked for the Director of the DOE Office of Science for 5 years.
- Senior Advisor to the Director - Bill Brinkman, Acting Director Pat Dehmer, and Cherry Murray
- Congressional affairs, ITER, rewrote Scientific Integrity Policy, background memos for “horseshoe”
- Strange set of duties to help the Director in whatever needed to get done

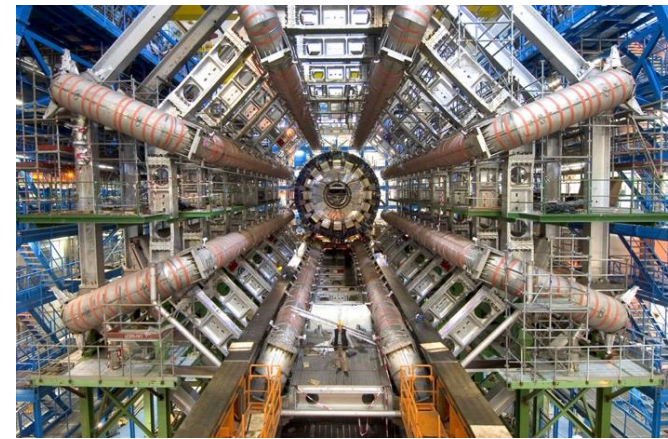


Department of Energy Mission Areas

Energy



Science



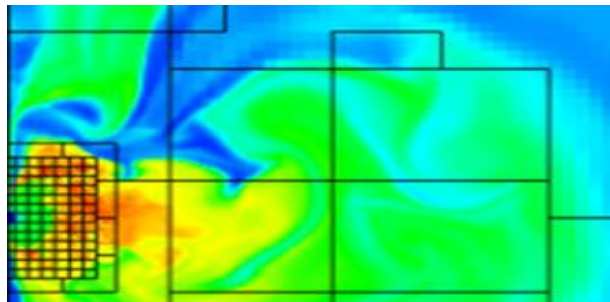
Nuclear Safety and Security



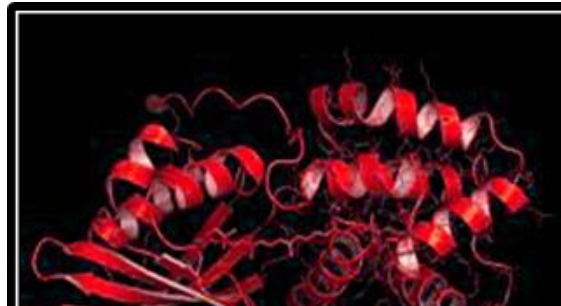
Environmental Cleanup



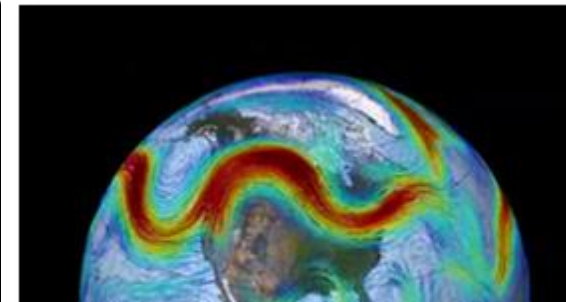
Office of Science Programs



**Advanced Scientific Computing
Research**
FY2016 \$621M



Basic Energy Sciences
FY2016 \$1849M



**Biological and Environmental
Research**
FY2016 \$609M

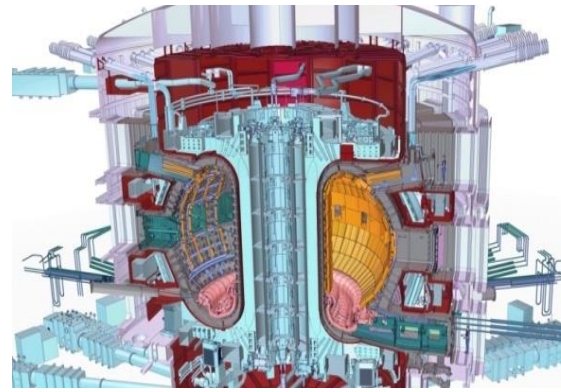
High Energy Physics

FY2016 \$795M



Fusion Energy Sciences

FY2016 \$438M



Nuclear Physics

FY2016 \$617M



DOE and Astronomy, or rather Astrophysics

Feng, Annu. Rev. Astron. Astrophys. 2010. 48:495–545

Dark Matter Candidates from Particle Physics and Method
of Detection

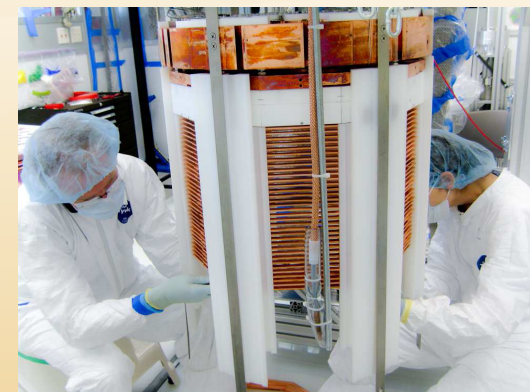
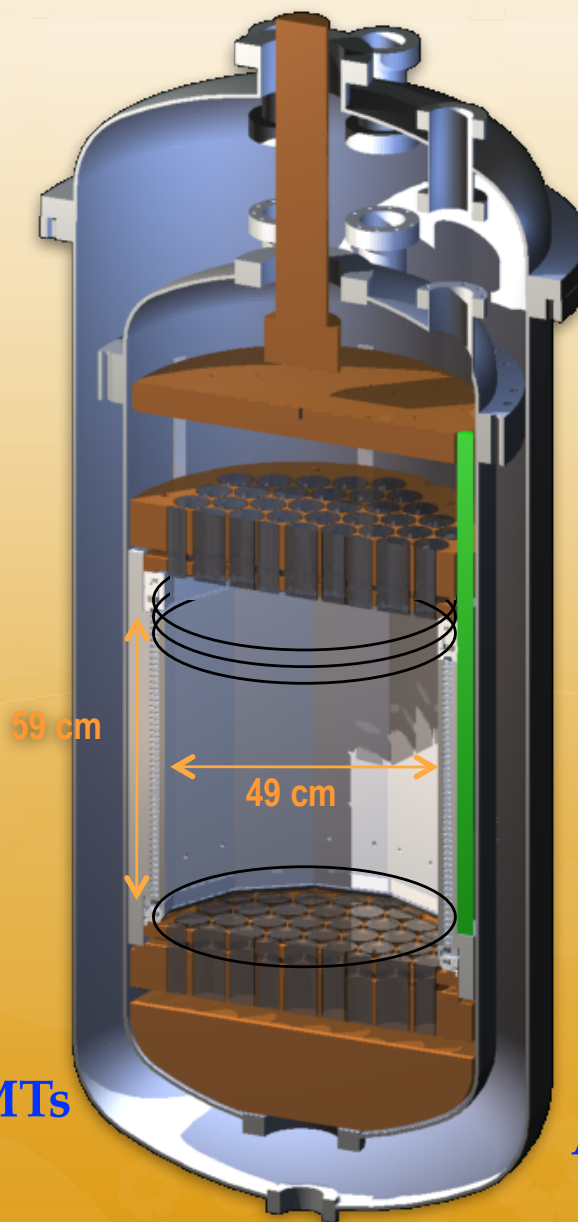
The LUX Experiment

- 370 kg Liquid Xenon Detector (59 cm height, 49 cm diameter)

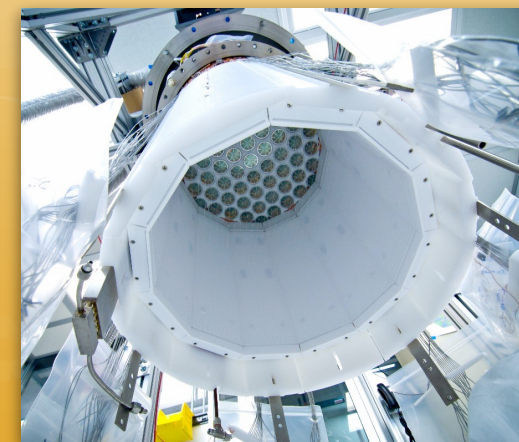
- 250 kg in the active region (with field)



122 ultra low-background PMTs (61 on top, 61 on bottom) observe both S1 and S2



Construction materials chosen for low radioactivity (Ti, Cu, PTFE)



Active region defined by PTFE reflectors (high reflectivity >97%) - high light collection

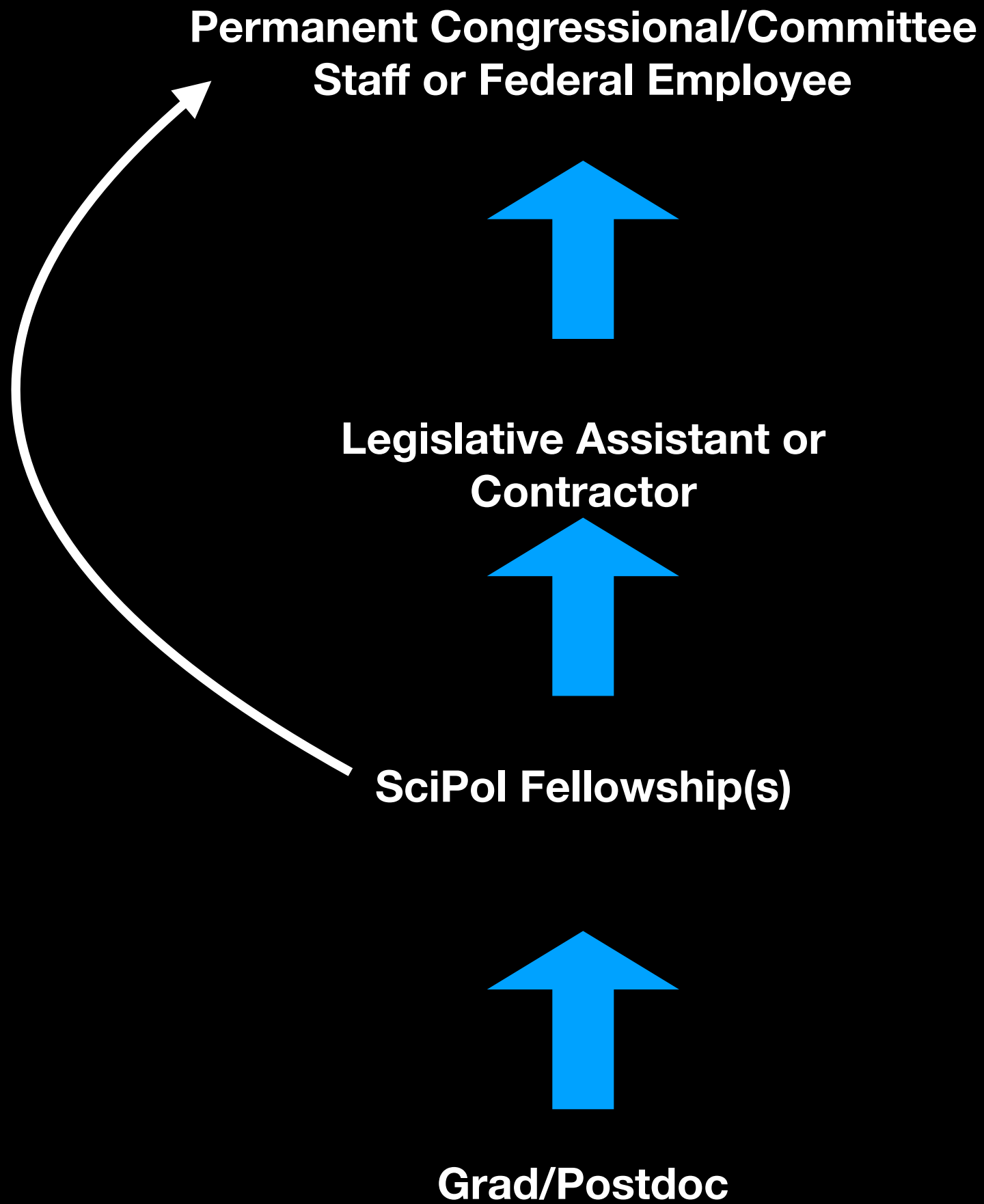
What is Science Policy?

How do we fund science?

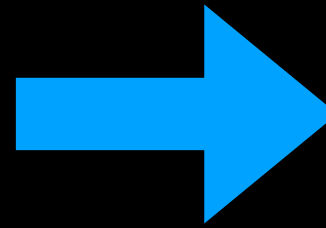
**How does science inform
policy?**

What research areas are priorities? What facilities do we build? What international projects do we join?

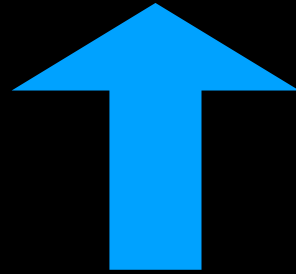
Climate policy, regulatory agencies like
FDA, EPA, CDC



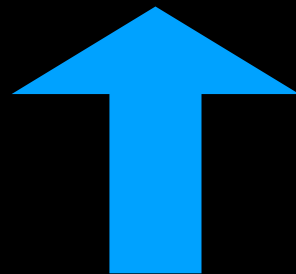
Dean / Provost / Lab Director



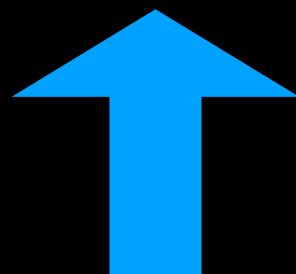
**OSTP Director / Cabinet
Member / Assistant
Secretary / Career SES**



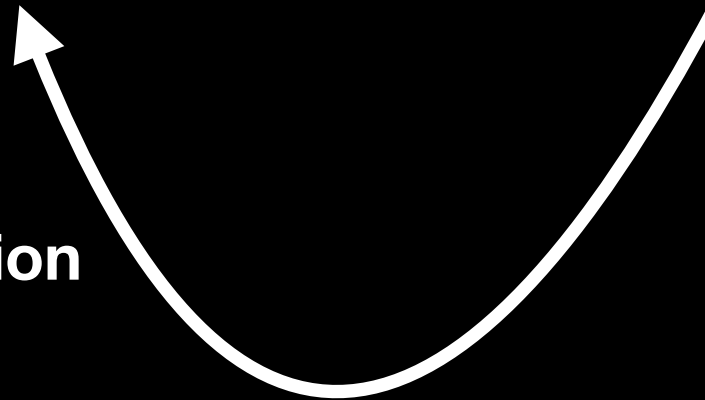
**Department Chair / Division
Director**



**Faculty Member /
Scientist**



Grad/Postdoc



Work for the Government

Congressional office or
committee staff.
An agency, board, or White
House -
NSF, NASA, DOE, OMB,
CEQ, OSTP

Influence the Government

AAS, AAAS, other scientific
societies, a university
government relations office, a
lobbying firm, the National
Academies, a think tank

Generalist

- **Broad knowledge, working high in an org chart**
- **Director's Office of an agency**
- **Executive Office of the President**
- **Risk: how do you sell these general skills to a new/different office?**

Specialist

- **Develop Specific subject matter expertise**
- **On a specific policy or topic, (climate, energy regulation, undergraduate education, nuclear non-proliferation)**
- **Risk - what if you become an expert in something you don't like?**

National Lab Bid and the National Lab System

Office of Science Laboratories

- 1 Ames Laboratory
Ames, Iowa
- 2 Argonne National Laboratory
Argonne, Illinois
- 3 Brookhaven National Laboratory
Upton, New York
- 4 Fermi National Accelerator Laboratory
Batavia, Illinois
- 5 Lawrence Berkeley National Laboratory
Berkeley, California
- 6 Oak Ridge National Laboratory
Oak Ridge, Tennessee
- 7 Pacific Northwest National Laboratory
Richland, Washington
- 8 Princeton Plasma Physics Laboratory
Princeton, New Jersey
- 9 SLAC National Accelerator Laboratory
Menlo Park, California
- 10 Thomas Jefferson National Accelerator Facility
Newport News, Virginia

Other DOE Laboratories

- 1 Idaho National Laboratory
Idaho Falls, Idaho
- 2 National Energy Technology Laboratory
Morgantown, West Virginia
Pittsburgh, Pennsylvania
Albany, Oregon
- 3 National Renewable Energy Laboratory
Golden, Colorado
- 4 Savannah River National Laboratory
Aiken, South Carolina

NNSA Laboratories

- 1 Lawrence Livermore National Laboratory
Livermore, California
- 2 Los Alamos National Laboratory
Los Alamos, New Mexico
- 3 Sandia National Laboratory
Albuquerque, New Mexico
Livermore, California

