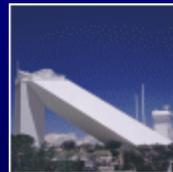




# Large Facility Workshop

April 2008





# AURA Basics

- Established in 1957, AURA membership now includes 33 U.S. institutions and 7 international institutions.
- Basic “business model” is a consortium of universities established to manage observatories.
- AURA now manages four major observatories
  - National Optical Astronomy Observatory (NOAO)
  - National Solar Observatory (NSO)
  - Space Telescope Science Institute (STScI)
  - Gemini

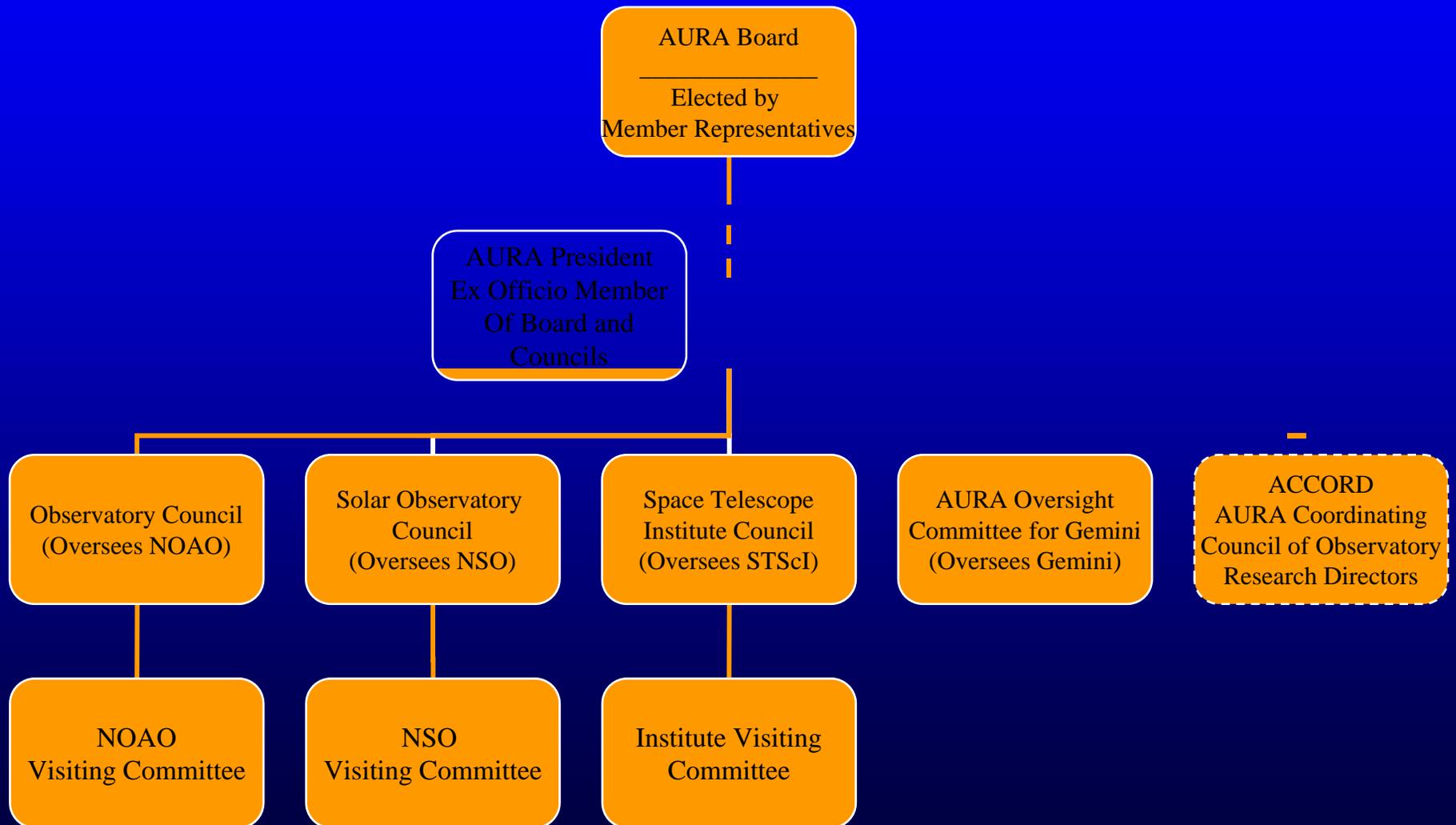


## AURA's Perceived Role

- Assuming full financial responsibility as the legal business entity (e.g. in placing contracts, providing financial audits, etc.)
- Achieving goals beyond the scope and capability of our individual observatories
- Ensuring a strong community role in guiding our observatories and in their oversight
- *Representative* of the broad community

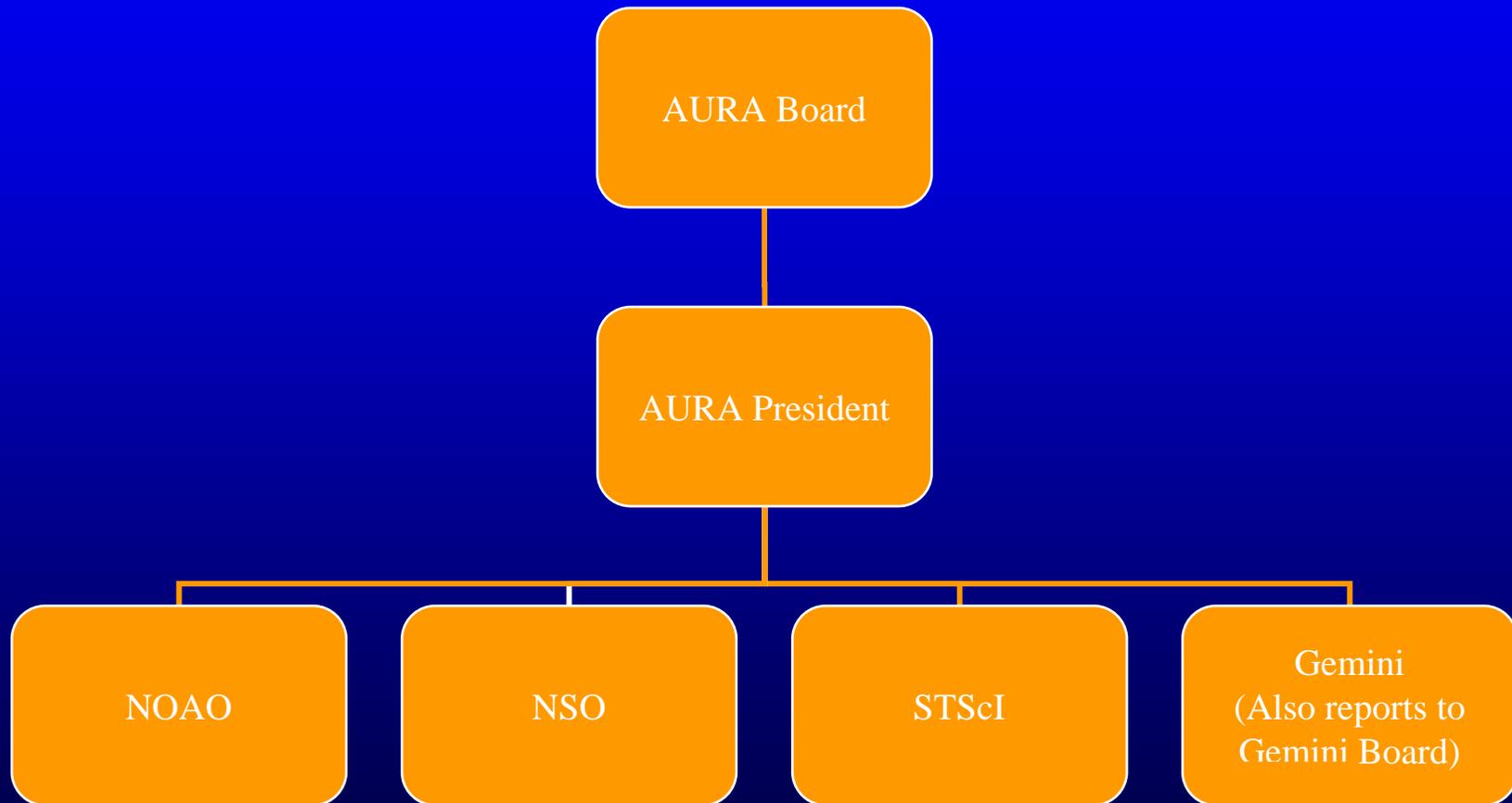


# AURA Governance





# AURA Management





# Why Managing Organizations

- The NSF Act of 1950 provides that “the Foundation shall not, itself, operate any laboratories or pilot plants” (sec. 14(b)).
- In fulfilling its commitment to advance fundamental research, the NSF management approach towards operating major facilities has been to select managing organizations strongly based in the academic community.
- This approach is alternative to the NASA Center model in which the management control is direct.



# Comparable Organizations

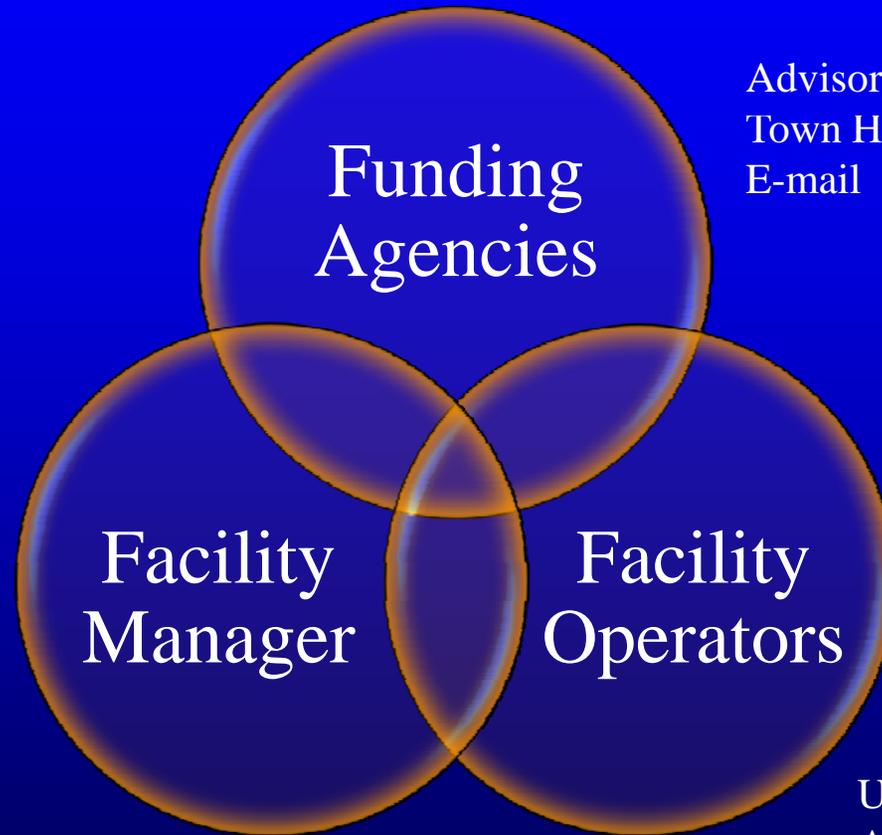
Organization	Association of Universities for Research in Astronomy	University Corporation for Atmospheric Research	Associated Universities Inc.	University Research Association Inc.	University Space Research Associates
Business Diversity	Four major business units	Two major business units	One major business unit	Two major business units	13 Institutes and Programs
Member Institutions	40 (some international)	69 (25 overlapping, some international)	0 (9 Founding Institutions)	87 (30 overlapping)	97 (26 overlapping, some international)
Governing Board	16 Board Members	20 Trustees	22 Trustees	17 Trustees	14 Trustees
Staff	~1000	~1445	~450	~2000	~420
Revenues	\$160 M	\$230 M	~\$100 M	\$351M	\$60M



# Funding Vehicles

- Contract (NASA):
  - Deliver goods or services to the Government
  - Close supervision by Government
  - Used for management of facilities envisioned to sunset in the future.
- Cooperative Agreement (NSF)
  - Deliver a service to the public on behalf of the Government as a public good
  - Similar to a grant, but more Government involvement
  - Greater level of autonomy than a contract
  - More appropriate for Federally Funded Research and Development Centers

# GOVERNANCE AND MANAGEMENT OF LARGE FACILITIES: THE COMMUNITY ROLE



Advisory Committees  
Town Hall interactions  
E-mail

Organizational Governance  
Trustees, Board, Oversight Councils

User Committees  
Advisory Committees



## Challenges: Community Guidance

- Astronomy community is large ~4000+ astronomers
- Divisions within community (from NSF Senior Review)
  - Physics vs. astronomy
  - Solar vs. other astronomy
  - OIR vs. radio astronomy
  - Private vs. public
  - Facilities vs. grants
  - Ground vs. space
  - Big science vs. small science
- AURA's community does not speak with one voice, and the multiple modes of input can lead to policy swings

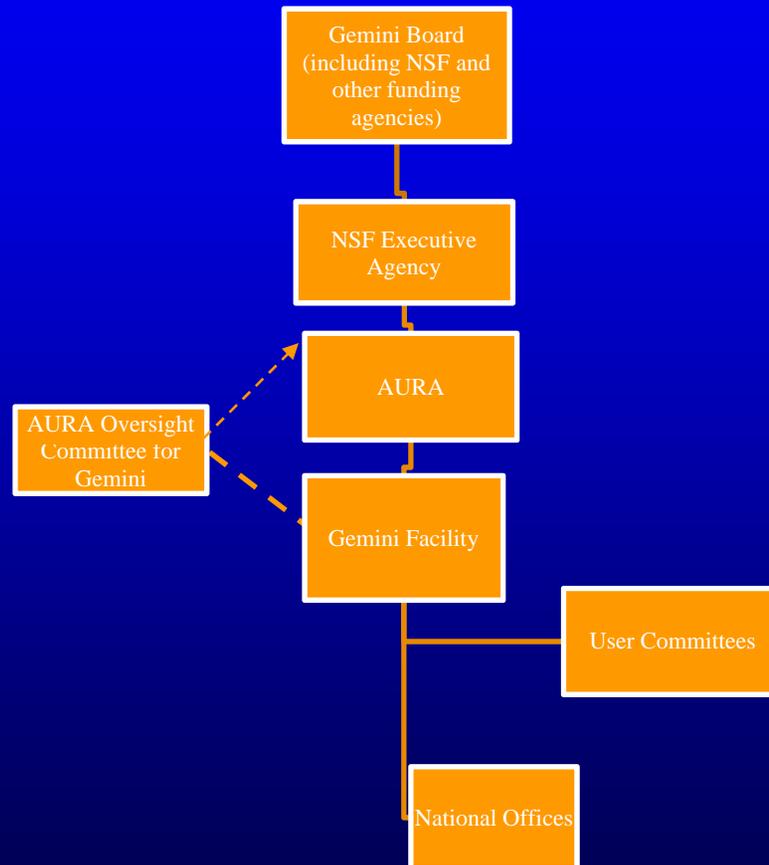


# Challenges: Interface with Funding Agencies

- Old paradigm
  - Facility → MO → Funding Agency
  - Works well for NOAO, NSO and STScI
  - Paths for community input well defined
- New paradigm
  - includes governing board that may include international partners, private sector partners, other Federal agencies
  - Gemini model more complicated
  - Paths for community input less clear



# Gemini Interfaces





# Other Models

- ALMA
  - Several major managing organizations co-equal in status
- SOAR/WIYN
  - NOAO is the operator, partner, and Board member
  - Federal funding flows through NOAO
- LSST
  - NOAO is partner, Board member, likely operator
  - Federal funding flows directly to LSST
- Future Facility governance structures TBD
  - Thirty Meter Telescope and Giant Magellan Telescope will involve private sector, and international entities

## Challenges: Measuring Outcomes

- Measuring outcomes is subjective for Cooperative agreements
  - Scientific productivity
  - Broadening participation
  - Stewardship of community interests
- Done through community assessment and Agency Reviews
  - Visiting Committees
  - Management Reviews
  - Ad hoc reviews (e.g. TSBR)
- Having our outcomes measured is a major workload itself!



# Whining Alert!

(This is only a test)



## **An Additional Challenge: Remaining Competitive**

- All managing organizations need to remain tuned in to changing needs and needed changes—for both the community and the agencies
- For the most part, the major managing organizations have nurtured their respective communities for decades
- Non-profit organizations are not naturally competitive with each other
- Policy of forced recompetitions does not really address the core needs and based on many faulty assumptions



## Competitive, cont.

- Forced recompetitions have mixed effects:
  - “Blackout” period during a recompetition isolates the organization and agency for more than a year
  - Real policy and practice changes are accomplished more productively through a dialogue than through a competitive “guessing game”.
  - Encourages creation of unworkable management arrangements in order to assure a win
- Current NSF/NSB policy requires managing organizations to be in a continual state of recompetition
  - Cooperative Agreements of 5 years
  - Mandatory recompetition thereafter
- Either change the duration of the cooperative agreements, or change the mandatory recompetition policy



# Backup



# AURA Board

- All authority flows from the AURA Board
- Restructured in 1996 to ensure a more efficient, conflict-free body.
- 12 elected members
  - At least 4 Member Representatives
  - 4 not Member Representatives
  - 2 from non-US institutions
- Management Council Chairs
- President



# Management Councils

- Dual role of **advocating** the mission of the AURA Center and conducting **oversight**
- Subsidiary body of AURA Board with delegated responsibilities for selecting staff, approving tenure, reviewing program plans, reviewing proposals, etc.
- Acquires in depth knowledge of the program
- Mix of AURA and non-AURA related members
- Acts as a conduit for bringing new ideas to the program



# AURA Growth

AURA MEMBER INSTITUTIONS

