

# Building the System: TSIP, ReSTAR and Beyond...

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# Building a system - the steps\*

1. Use various community-based discussions to get sense of science and needed capabilities
2. Identify potential partners, their strengths and weaknesses
3. Develop a plan that takes advantage of internal and external assets
4. Implement plan: negotiate access, build instruments
5. Present to community as integrated system
6. Start again...

\*Stolen from Todd

# Introduction

- Show some specifics of what we're doing
  - At least w/r/t #1, #2, #3
- Start with history and context
- Give sense of process, past, present and future
  - What's been accomplished
  - Evolution of process itself
- Users Committee as community microcosm: please give feedback!

# In The Beginning...

- Specific Roles for NOAO in last Decadal Survey:
  - Lead Development of Strategic Plan
  - Partner with Private Institutions to Develop and Provide Access
  - Represent Community Interests within those partnerships
- Specific Programmatic Role: TSIP

# NOAO System Planning, Pre-Senior Review

- First Community Workshop: Oct 2000
  - System Concept and Introduction to Planning
- Second Community Workshop: May 2004
  - Building the System from the Ground Up
- Third Community Workshop: Nov 2006
  - Instrumentation Strategic Planning

# NOAO's Mission Statement

- Following the Senior Review, NOAO's Mission has been cast as:

*“Providing access to an optimized system of high-performance telescopes of all apertures, and to the data from them, for the benefit of the entire community.”*

# TSIP - History

- Started in 2002
- Originally > 6.5m, now > 3m
- Originally non-federal only, now any with NOAO share < 51%
- Originally new instruments, now also for instrument improvements, infrastructure upgrades and operations

# TSIP – Awards

- Keck + OSIRIS: finished and operating
- Keck + KIRMOS: funded only to PDR, led to...
- Keck + MOSFIRE: under construction
- MMT/Magellan + MMIRS: under construction
- WIYN + ODI (nights begin ~with ODI)
- Magellan + IMACS (new CCDs): under construction

# TSIP Summary

Year	Telescope	Instrument	Award (M\$)	Nights	Start
2002	Keck	OSIRIS	2.750	29	2003A
	Keck	KIRMOS	1.140	12	2003A
2003	MMT/Mag	MMIRS	2.500	54	2004A
	Keck	KIRMOS	1.100	12	2004A
2005	Keck	MOSFIRE	2.450	24	2006B
	WIYN	ODI	1.640	40	*
2006	Keck	MOSFIRE	4.900	48	2007A
	LBT	MODS	2.600	25	2007A**
	Magellan	Mosaic2	0.648	15	2007A
Totals			19.728	259	

# TSIP – Future

- Steady funding (we hope...) of ~\$5M/yr
  - ACCORD would like \$7M/yr
- Continuing in present form, more or less
  - Present access small but still valuable

# Post-Senior Review

- SR Conclusions:
  - Too much emphasis on big new things
  - Community access to mid-sized facilities declining due to:
    - Time on NOAO telescopes being sold to cover new instruments and operating costs
    - Existing mid-sized telescopes everywhere not being kept modern and competitive
- Responses:
  - CTIO & KPNO modernizations
  - ReSTAR...



- Develop
  - Prioritized
  - Quantitative
  - Science-justifiedList of capabilities for telescopes < 6m
- Estimate number of total nights needed
- Consider in light of current and expected future G/B O/IR System

# ReSTAR Inputs

- Web input form
  - Input actively solicited via “phone tree”
  - About 150 responses received and compiled
- Science-area subcommittees
  - Members actively surveyed others in field
  - Develop lists of projected needs for next 5-10 years of science

# ReSTAR Output

- Commissioned by NOAO, reports to Dir.
- Report due by end of 2007
- NOAO will use report in several ways
  - Guide to modernizing NOAO facilities
  - Foundation for application to NSF for supplemental funding
  - Basis of negotiations with non-Federal observatories for closer participation in System

# ReSTAR So Far

- 2 Meetings held, 2 more coming (#3 next week)
- 7 New capabilities identified, ROM costs requested (more coming?)
- Much discussion about needs in context of The System 5-10 years out (NEWFIRM; DEC; ODI; PanSTARRS/LSST getting started)

# Potential Partners, 2-5m Class

- ACCORD-sponsored discussions among directors
  - 7 concrete expressions of interest (Palomar, MDM, Steward, ARC, McDonald, Wyoming, CFHT)
  - Several more want to keep talking
- Direct proposal from DCT
- These discussions, along with ReSTAR report, are fuel for NSF proposal

# Other Potential Partners

- **Keck**: NASA has opened preliminary discussions about NSF/NOAO taking over some or all of NASA's 1/6<sup>th</sup> share
- **Las Cumbres Observatory Global Telescopes Network**: Expressed interest in working with NOAO, nature and extent TBD
- **Magdalena Ridge Optical Interferometer**: Interested in NSF/NOAO support in return for NOAO-administered community access.

# NOAO Staff and System Planning

- ReSTAR and GSMT SWG: *ex officio* members
  - Observers/Liaisons also
- Staff Working Group on System Evolution:
  - Charged with developing a broad, integrated, quantitative picture of The System:
    - Relations among various parts
    - Changes in parts and relationships over time, esp. w/r/t major new facilities
  - Needed For:
    - Support for supplemental funding
    - Support for community outreach
    - Guidance in setting NOAO priorities
    - Preparing for next Decadal Survey