#### The View From NSF

- LIGO Laboratory and LSC Funding
- LSC White Papers
- Conclusions

Richard Isaacson 3/4/99



#### LIGO status at NSF

- Rita Colwell: New NSF Director
  - FY2000 NSF priorities: biocomplexity, IT<sup>2</sup>
- Joseph Dehmer: New Physics Division Director
- Plans for LIGO I construction, commissioning and ops. are accepted by NSF and congress
- No coherent plan exists yet for LIGO II
  - scientific goals, construction plans, research program, manpower, costs, schedules and milestones are neither defined nor validated
- LIGO III construction is off NSF's radar screen

# Deconstructing the FY1999 NSF budget:

	FY1998	FY1999	Change	
	\$ M	\$M Est.	with	without
		LIGO Ops		
NSF	3,426.0	3,737.4	9%	8.7%
MPS	687.0	734.0	7 %	4.9%
Physics	142.7	162.5	14%	4.7%
Lab	7.3	20.8	185%	
LSC	5.1	6.2	22%	

#### The president's FY2000 request:

	(\$ Million)		
	FY1999	FY2000	Change
	Est.	Req.	
NSF	3,737.4	3,954.4	5.8%
RRA	2,809.2	3,004.0	6.9%
MPS	734.4	754.0	2.7%
Physics	162.5	167.4	3.0%
Lab	20.8	21.1	1.4%
LSC	6.2	?	<3.0%??

#### LSC funding summary

Funding profile would require 20% annual increase to meet **existing** needs and fund **new** activities

	FY 1997	FY1998	FY1999	FY2000
	\$ M	\$ M	\$M Est.	\$M Est.
LSC	4.5	5.1 (+15%)	6.2 (+22%)	(<+3% ??)
# Groups	14	16	18	?

## NSF budget events for 1999 (FY 1999 runs Oct.1, 1998-Sept 30, 1999)

- Feb 1, 1999: President's FY2000 budget presented to Congress
- March April 1999: Congressional hearings on NSF
- June 1999: OMB call for FY2001 budget
- Aug. 1999: NSB decides FY2001 budget priorities
- Sept. 30, 1999: Congress finishes FY2000 budget
- Sept. 1999: NSF submits FY2001 budget to OMB
- Nov. 1999: OMB passback
- Dec. 1999-Jan. 2000: Final OMB adjustments to FY2001 budget

## LSC has a leadership opportunity in shaping the future

- A plan is urgently needed to insure utilization of the national investment in LIGO
- the LSC can play a major role if it acts now.
- Otherwise, someone else will do it.

## LSC generated White Papers desirable to:

- Create a vision for how the future will unfold
- Define a coherent national program
- Construct a rationale for shaping future budget requests to congress
- Provide an intellectual context for proposers and reviewers

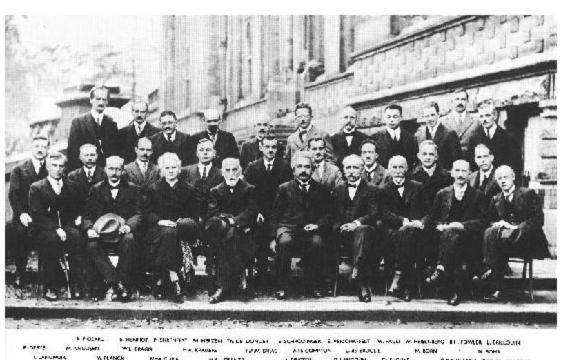
#### Status of LSC White Papers:

 Development Sub-Group (isolation, lasers, configuration,...)

- Draft of Nov. 9, 1998 approved by PAC and submitted by LIGO laboratory to NSF
- Half-way there:
  - supplies vision and coherent program
  - Not yet a plan!
    Still needs: cost and manpower loaded schedule; milestones; realistic scope and budget envelope; decision points for redeployment of limited resources

#### Status of LSC White Papers:

- 2. Data Analysis Sub-Group (astrophysics, detector, ...)
- LSC White Paper critical for progress
  - needed to define goals, schedules, milestones, cost, responsible personnel, etc.
- Team B...



# Other comments on LIGO I data analysis

- Laboratory needs beginning-to-end software validation tests
- Constraints in LIGO I computing model must be well understood by LSC
- LSC need to provide Laboratory with validated data analysis software

## The Development Sub-Group Draft White Paper is having impacts already

- Budget planning for LIGO II
- Review of LSC proposals

#### Budget planning for LIGO II

- LSC Development White Paper defined scope.
  NSF made preliminary cost and schedule plans
- These plans were the basis for NSF discussions on 2/8/99 about Major Research Equipment (MRE) funds for FY2002-FY2005
- Preliminary data analysis and networking plans made by NSF in the absence of any LSC input
- Have another chance (next spring) to influence NSF FY2002 budget and refine estimates with best information from White Papers

#### REVIEW OF LSC PROPOSALS

- NSF Evaluation
  - peer review using NSB criteria
  - in context of Lab and LSC activities
- NSF requests LIGO Lab to provide a scientific and technical review
- White Paper defines LSC context
  - for proposers and reviewers



#### Conclusions

- Funding growth for LSC slowing?
  - strong support inside MPS, but budget there is constrained
  - need convincing rationale to change trend
- Next iteration of the LSC Development White Paper needs to produce a plan
- Substantive LSC Data Analysis White Paper urgently needed to plan future
- Review of LSC proposals linked to LSC plans