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# Program Advisory Committee

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# *LIGO*

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Barry Barish  
*Caltech*  
*Jan 6-7, 1997*



# LIGO Committees

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- LIGO Oversight Committee
  - » Caltech/MIT administrations (L. Allen, chair)
  - » meets quarterly
- NSF Review Panel
  - » NSF technical & management (D. Hartill, chair)
  - » twice/year

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- LIGO Program Advisory Panel
  - » policy, management, technical (B. Fraser, chair)
  - » twice/year

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- LIGO Research Community (LRC)
  - » ~ 200+ members
  - » elected Exec Committee (S. Finn, chair)
  - » representation on PAC



## **LIGO Program Advisory Committee**

### **Draft Charge**

January 7, 1996

The LIGO Program Advisory Committee (PAC) is the principle advisory group to the LIGO management. The committee will meet approximately two times per year and will give advice on policy, management and technical issues. The PAC will review all aspects of the program regularly, including LIGO related research by outside groups. Some of the work may be done by subcommittees, which can include outside members. The committee will assist LIGO in giving the NSF input on LIGO related issues.

# PAC Meeting

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- Informational
  - » Review of the project
  - » tour of 40m, vacuum chamber models, Drever set-up
  - » Computing/Data Analysis in LIGO
- Tasks for PAC
  - » Determine the Committee Charge
  - » Review Proposals to NSF
    - LIGO FY97 one year plan (\$890K)
    - Advanced R&D Proposals
  - » Review and Comment on plan to form the LIGO Scientific Collaboration
- Written Report of PAC
  - » PAC report to LIGO
    - advice and conclusions
    - report on proposals
- Special Issues
  - » confidentiality for proposal reviews
  - » conflict of interest of committee members



# LIGO Plans

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- Main Activity

1996 Construction Underway

-mostly civil

1997 Facility Construction

-vacuum system

1998 Interferometer Construction

-complete facilities

1999 Construction Complete

-interferometers in vacuum

2000 Commission Detectors

-first light; testing

2001 Engineering Tests

-sensitivity; engineering run

2002 Initial LIGO Detector Run

-  $h \sim 10^{-21}$



# LIGO Funding by NSF Task and by Year

<i>Fiscal Year</i>	<i>Construction</i>	<i>R&amp;D</i>	<i>Operations</i>	<i>Advanced R&amp;D</i>	<i>Total</i>
<b>Thru 1994</b>	<b>35.9</b>	<b>11.2</b>			<b>47.1</b>
<b>1995</b>	<b>85.0</b>	<b>4.0</b>			<b>89.0</b>
<b>1996</b>	<b>70.0</b>	<b>2.4</b>			<b>72.4</b>
<b>1997</b>	<b>55.0</b>	<b>1.6</b>	<b>0.3</b>	<b>0.9</b>	<b>57.8</b>
<b>1998</b>	<b>26.2</b>	<b>0.8</b>	<b>7.3</b>	<b>2.7</b>	<b>37.0</b>
<b>1999</b>			<b>20.9</b>	<b>2.7</b>	<b>23.6</b>
<b>2000</b>			<b>21.1</b>	<b>2.7</b>	<b>23.8</b>
<b>2001</b>		<b>10 months &gt;</b>		<b>2.6</b>	<b>21.7</b>
<b>All funds shown in 'then'-year \$M</b>					

# LIGO Science

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## Physics Schedule

- First Physics Run (~2002-2004)
  - » begins after  $h \sim 10^{-21}$  attained
  - » two year run allows first neutron binary search (live time  $\sim 1$  yr)
  - » LIGO I Collaboration
- Advanced Subsystems (~2004- )
  - » Advanced R&D to reach  $h \sim 10^{-22}$
  - » collaborations being formed
  - » implemented from ~2004 over several years
  - » physics runs interleaved
- Advanced Detectors ( > 2004 )
  - » new vacuum systems, floor space, etc

## LIGO Science Collaboration

- Plans to form the Collaboration



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|------|-----------------------------|-------------------------------|
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| 2000 | Commission Detectors        | -first light; testing         |
| 2001 | Engineering Tests           | -sensitivity; engineering run |
| 2002 | Initial LIGO Detector Run   | - $h \sim 10^{-21}$           |



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