

# GLAST IFC: Update and Meeting Goals

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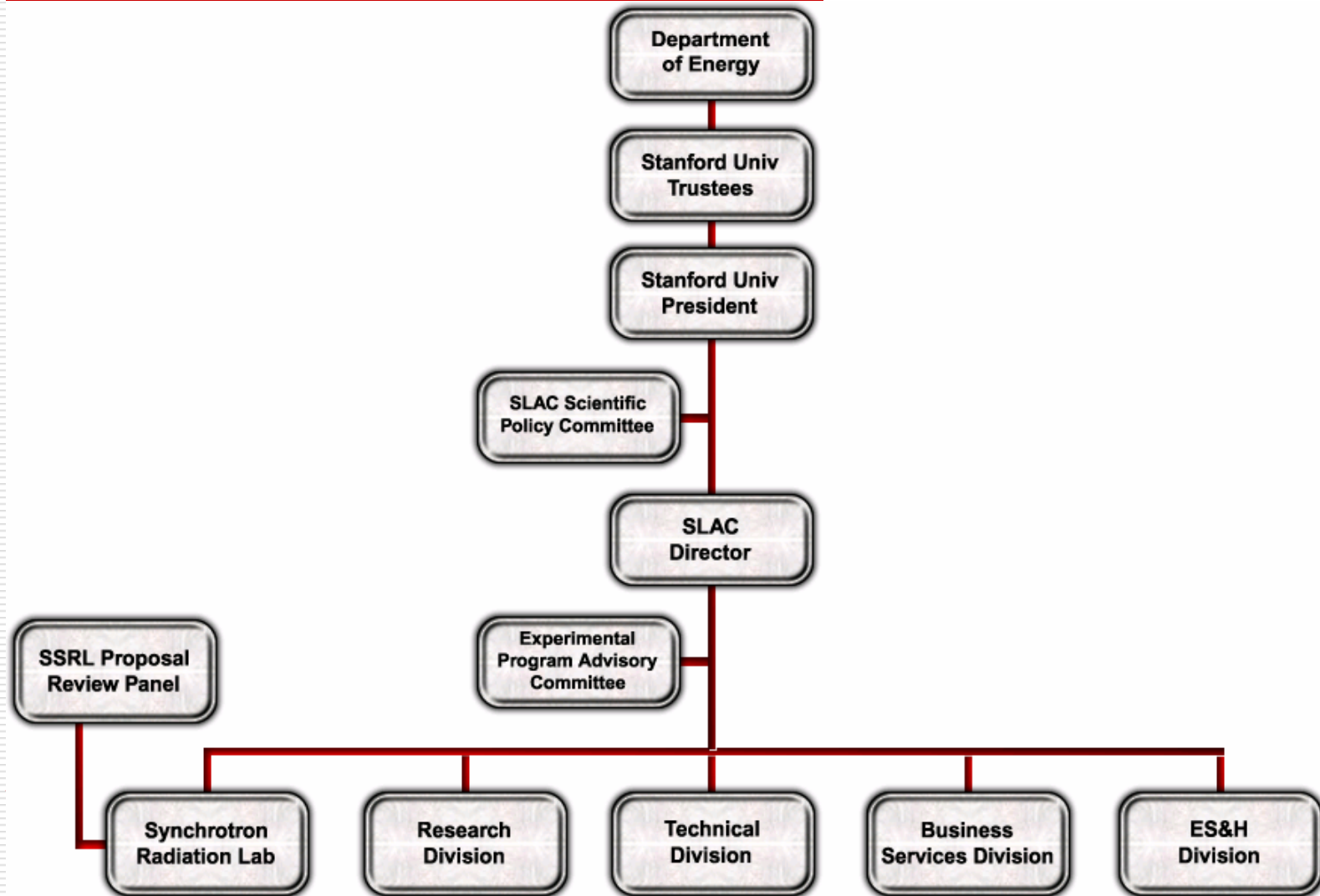
Persis S. Drell  
Research Director  
SLAC

# SLAC: History

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- A government-owned facility operated by Stanford
    - located on about 430 acres of Stanford land leased to the federal government
  - Created by the Stanford faculty of the late 1950's
  - Construction started in 1963 and the first experiments began in 1967
  - SLAC's open to all scientists worldwide on the basis of proposals submitted for peer review.
  - Laboratory conducts fundamental research, unclassified in nature, and widely published in the open literature
  - The laboratory has remained on the frontiers of science through continued upgrades and additions to its initial complement of accelerator facilities
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# SLAC: Relationship to Stanford University



# SLAC: Scientific Programs

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## □ High Energy Physics / Particle Astrophysics

Experiments, theory, accelerator development for studies of the ultimate structure of matter, the forces between the fundamental entities, the birth and evolution of the universe

## □ Synchrotron Light Source

The use of ultra high-intensity x-ray beams (ten million times the intensity of x-ray tubes) for studies in physics, biology, chemistry, medicine, and environmental sciences

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# SLAC: Academic Institution

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- SLAC is a School of Stanford University
  - School has two faculties:
    - High Energy Physics ~ 28 active Professors
      - Three have won Nobel Prizes for work done at SLAC
    - Stanford Synchrotron Radiation Laboratory ~ 17 active Professors
  - SLAC faculty are prominent in the education of students and postdoctoral fellows
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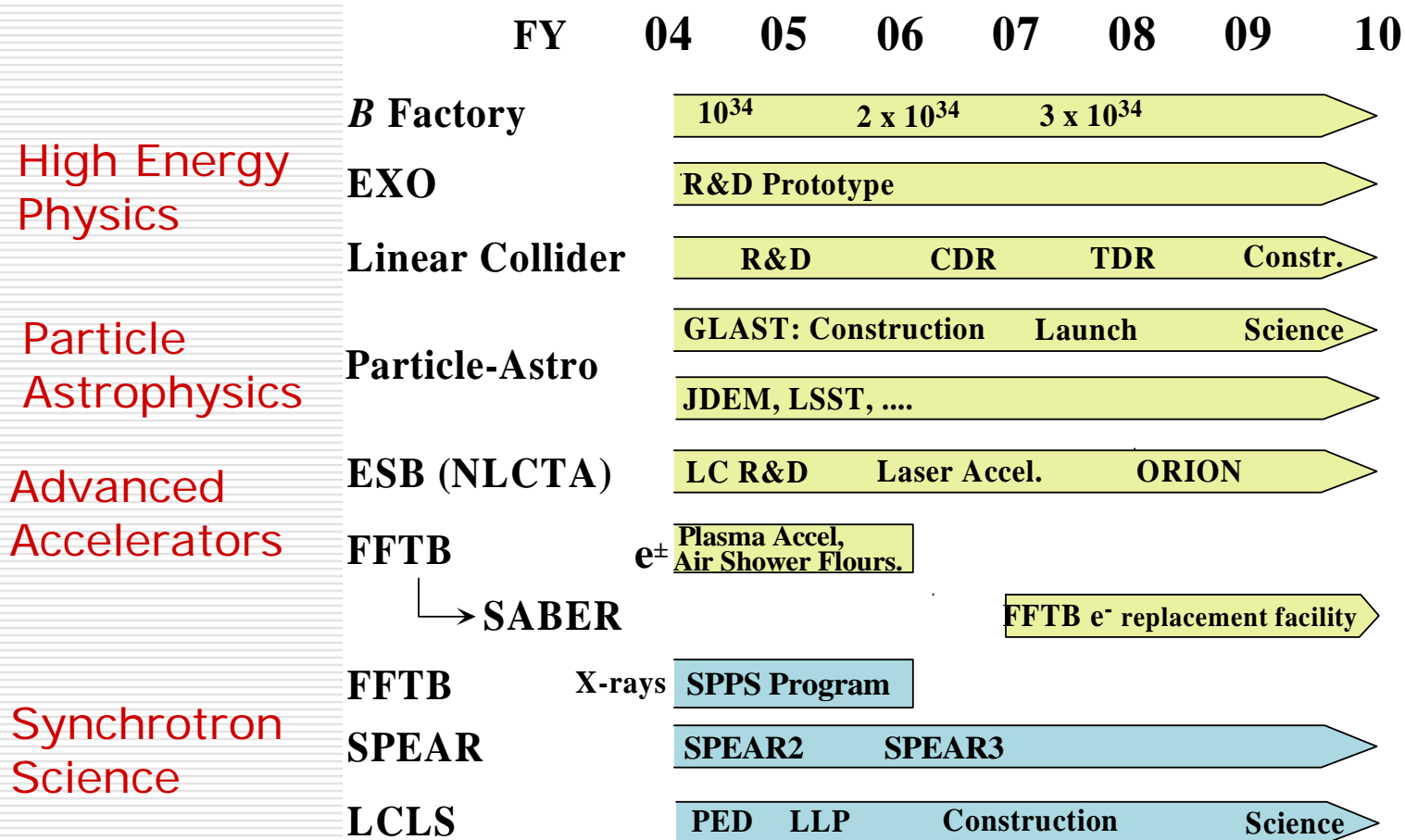
# SLAC: International Research Facility

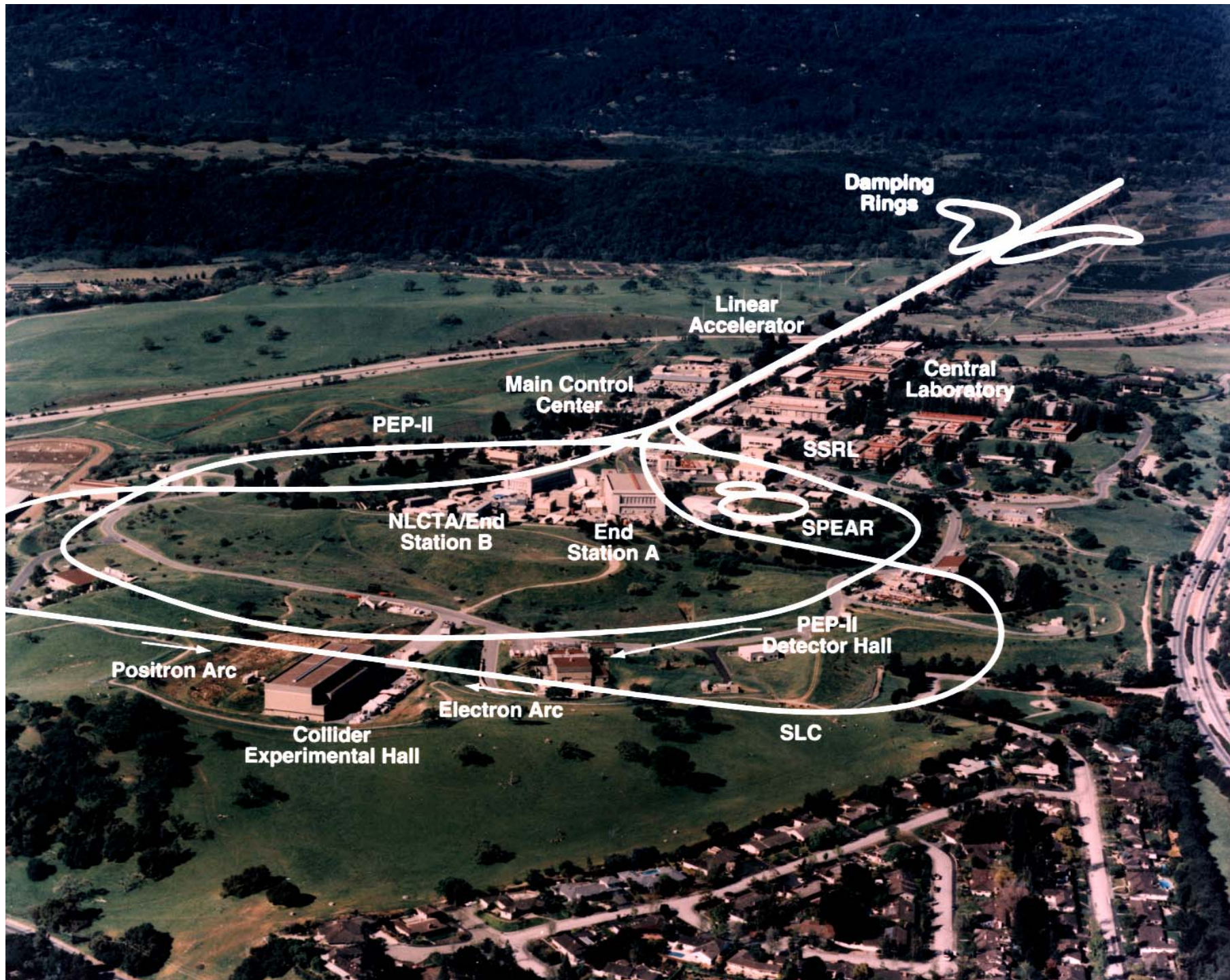
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- 3000 scientists from ~ 25 nations do their research at SLAC
- Science program at SLAC generates 800-900 publications per year



# Overview of SLAC Program





# SLAC SSRL Program

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## □ Main elements of the SSRL program:

### ■ SPEAR Synchrotron Light Source

- ⊕ Broad and productive program of frontier science.

- ⊕ SPEAR Upgrade completed this year

### ■ Linear Coherent Light Source at SLAC (LCLS)

- ⊕ R&D for this X-ray laser is progressing well

- ⊕ Funding growing

- ⊕ Anticipate first light in ~2008

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# SLAC HEP/Particle Astro Program

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- Main elements of the SLAC HEP/Particle Astro Program
    - *B* Factory – PEP-II (machine), BABAR (detector)
      - Discovery of CP violation in B mesons
      - Rich program until end of decade using quark flavor mixing as window on new TeV scale interactions
    - Linear Collider
      - Explore physics of TeV scale
      - Highest priority next facility for world HEP community
    - In addition:
      - Non Accelerator-Based Particle Physics
        - EXO – R&D study for expt. to measure  $\nu_e$  mass
      - Theory
      - Accelerator R&D
      - Test Beams
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# SLAC HEP/Particle Astro Program

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## □ GLAST

- Marriage of scientific leadership of Peter Michelson and technical innovation of SLAC staff
  - Marriage of HEP and space scientists from 5 nations, 9 funding agencies
  - Marriage of 2 schools of Stanford University (Physics Dept– Humanities & Sciences and High Energy Physics – SLAC)
- Status and issues of project will be the subject of our meeting
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# GLAST: Recent Events

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- ❑ CNES withdrew financial support for project (4/03)
  - ❑ New project manager; organizational changes (7/03)
  - ❑ Project successfully rebaselined
  - ❑ Cost growth: \$17.2M
    - Launch delay: 5-6 months
    - Strong support from NASA, DOE, SLAC & Stanford
  - ❑ Successful CDR/CD-3 review
  - ❑ NASA Confirmation Review 12/4/03—Successful!
  - ❑ Starting to prepare for science
    - Instrument Science and Operations Center at Stanford
    - Search for manager underway
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# Future Particle Astro at Stanford

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- KIPAC: Kavli Institute for Particle Astrophysics and Cosmology
    - Born from the faculty of HEP/SLAC and Physics Dept /H&S
    - Director reports to Stanford Dean of Research
      - Operates as independent research center
      - 9 new faculty
        - Most (if not all) will be joint SLAC/Campus
        - Exploit synergy that has come from birth of GLAST
    - Director and Deputy Director have arrived!
      - Roger Blandford (CalTech)
      - Steve Kahn (Columbia)
    - It is anticipated the institute will bring in funds from NASA and NSF that will flow through campus in addition to DOE funds that will flow through SLAC
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# KIPAC

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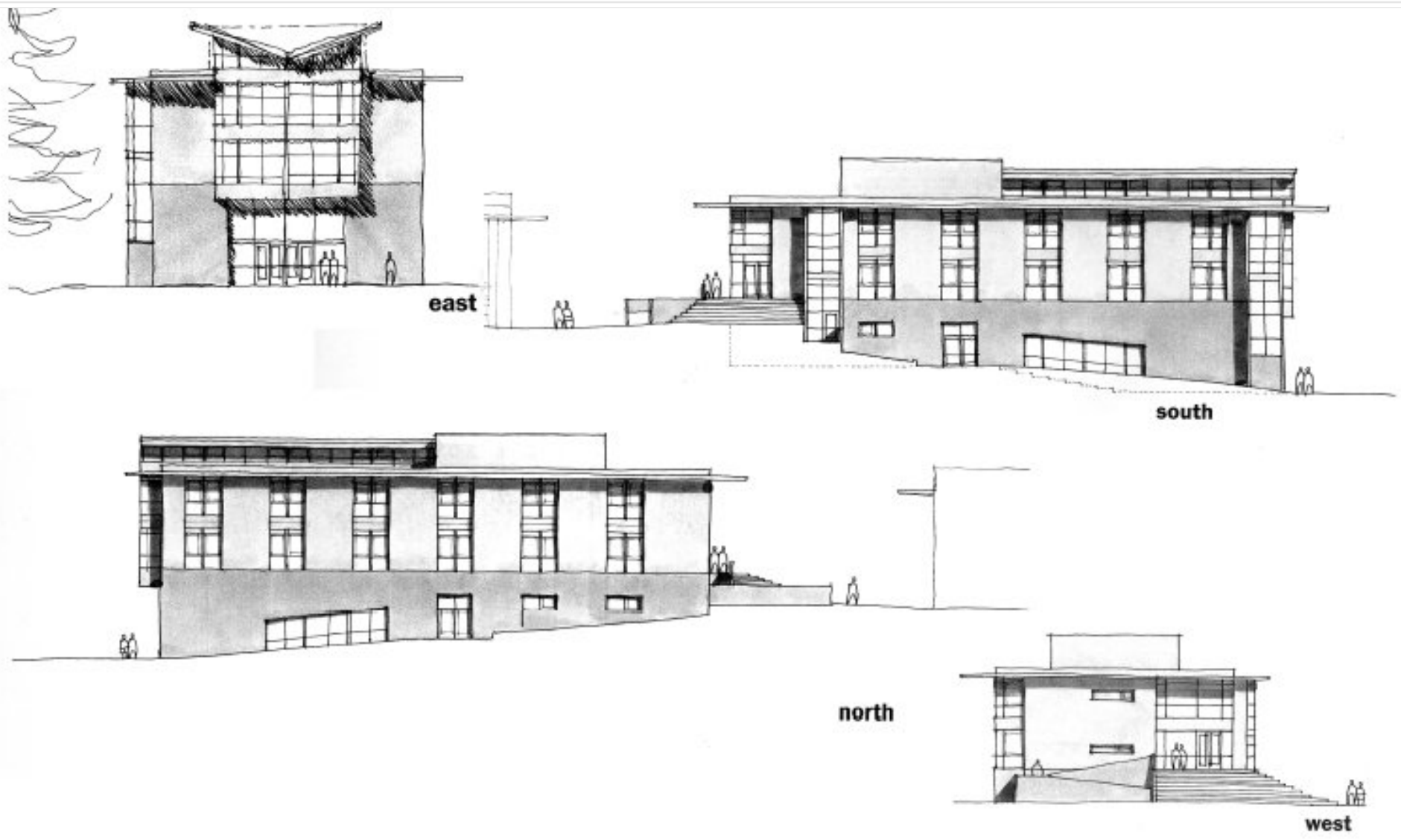
- Off to a spectacular start:
    - Inauguration
    - Already >16 FTE's starting fall 2003
    - Progress on developing scientific program
    - Two more faculty hires in progress
  - Challenge: Capitalize fully spectacular start to this exciting new program to benefit national program!
    - Unique opportunities to bridge DOE/NASA/NSF cultures
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# KIPAC

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- Physical Location
    - Kavli building on SLAC site (summer '05)
    - Varian II building on campus (spring '06)
  - GLAST will be part of KIPAC intellectual environment
  - GLAST already benefiting from KIPAC
    - Blandford an Assoc. Scientist—co-leading organization of multiwavelength efforts
    - Kahn chair of IAC
    - KIPAC staff member helping with ISOC
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# KIPAC Building at SLAC



# KIPAC Building at SLAC



# Agenda and Goals for Meeting

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- Overview of LAT Project
    - Project Overview and Collaboration Status
    - Project Status: Technical and Cost
    - GLAST Mission Status Update
  - Agency Roundtable
    - Roundtable discussion of funding status from each agency
  - Discussion of Operating Common Fund
  - Discussion of I&T Support
  - Discussion of Operations Phase Collaboration Support
  - Approval of September Minutes
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