Annual PEMP reporting
Preparation of PEMP

• Continuing trend towards focused and succinct report
• Science editor engaged to help produce a uniform document
• No publication lists required, just bulleted responses
  – Goal Executive Summary for each program: A short introduction (1-2 paragraphs…Keep it short)
  – Accomplishments: Bullet items of performance accomplishments
  – Noteworthy performance and practices: Bullet items, if any are identified
  – Opportunities for improvements, major concerns or issues: Bullet items, if any are identified
• Deadlines! Grade/self evaluation: September 4; All science writing: September 11
Editorial assignments

- Editing for main PPA-related sections are divided into:
  - Accelerator Research [Tor Raubenheimer]
  - ILC [Tor Raubenheimer, Nan Phinney]
  - Elementary Particle Physics [David MacFarlane]
  - Astrophysics [Roger Blandford]
  - Scientific Computing [Steffen Luitz, Don Lemma]

- Input via SharePoint site
  - [https://slacspace.slac.stanford.edu/sites/assurance/FY09PEMPSA/default.aspx](https://slacspace.slac.stanford.edu/sites/assurance/FY09PEMPSA/default.aspx)
Goals 1-3

- **Goal 1: Efficient and Effective Mission Accomplishment**
  - Objective 1.1: Science and Technology Results Provide Meaningful Impact on the Field
  - Objective 1.2: Provide Quality Leadership in Science and Technology
  - Objective 1.3: Provide and Sustain Science and Technology Outputs that Advance Program Objectives and Goals
  - Objective 1.4: Provide for Effective Delivery of Science and Technology

- **Goal 2: Provide for Efficient and Effective Design, Fabrication, Construction and Operations of Research Facilities**
  - Objective 2.1: Provide Effective Facility Design(s) as Required to Support Laboratory Programs (i.e., Activities Leading to CD-2)
  - Objective 2.3: Provide for the Effective and Efficient Construction of Facilities and/or Fabrication of Components (execution phase, Post CD-2 to CD-4)
  - Objective 2.3: Provide Efficient and Effective Operation of Facilities
  - Objective 2.4: Utilization of Facility to Grow and Support Lab’s Research Base and External User Community
Goals 1-3

- Goal 3: Provide Efficient and Effective Science and Technology Program Management
  - Objective 3.1: Provide Effective and Efficient Stewardship of Scientific Capabilities and Program Vision
  - Objective 3.2: Provide Effective and Efficient Science and Technology Project/Program Planning and Management
  - Objective 3.3: Provide Efficient and Effective communications and Responsiveness to Customer Needs
Update on Accelerator Directorate implications for PPA
AD Organization Chart

Dale Knutson (Acting)
Associate Laboratory Director

Bob Hettel, Deputy
John Seeman, Deputy

SPEAR 3*
Program Division
John Schmerge

LCLS*
Program Division
David Schultz

Sector 0-20
& FACET*
Program Division
Uli Wienands

Accelerator Research
Division
Tor Raubenheimer
Nan Phinney, HEP Deputy
Paul Emma, LCLS Deputy

Strategic
Projects Division
John Galayda

Accelerator
Engineering Division
Karen Fant

Accelerator
Operations & Safety
Division
Roger Erickson

Business
Office
Cindy Lowe (Acting)

*Matrixed to Research
Program Leadership as
Needed
New PPA organization

PPA Department Heads: August 27, 2009

Particle Physics & Astrophysics Directorate
D. MacFarlane, Director
W. Wisniewski, Deputy Director

Elementary Particle Physics:
D. MacFarlane (acting), Division Head

Accelerator Directorate:
W. Wisniewski, Deputy Director

KIPAC:
R. Blandford, Division Head

FACET Project:
Andrei Seryi, Project Manager

BABAR D&D:
W. Wisniewski, Project Manager

HEP Accelerator Research:
N. Phinney, Division Head

Linear Collider R&D:
N. Phinney

Accelerator Design:
Y. Cai

LARP & LHC upgrades:
T. Markiewicz

Structures & rf Development:
C. Adolphsen

High Gradient Research:
S. Tantawi

Novel Acceleration Techniques:
E. Colby

Test Facilities Department/ARD

FACET HEP Operations funding

FACET ARRA Project funding

HEP funding to ARD will flow through projects

Personnel matrixed from Accelerator Directorate
## Mapping of B&R codes and CAMs

<table>
<thead>
<tr>
<th>Program</th>
<th>B&amp;R codes</th>
<th>CAMs</th>
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<tbody>
<tr>
<td>Linear Collider R&amp;D</td>
<td>ILC – KA1502021</td>
<td>Management, System Int, Acc Physics – CAM: Nan Phinney</td>
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<td></td>
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<td>Damping Rings &amp; Electron Cloud – CAM: Mauro Pivi</td>
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<td>Sources – CAM: John Sheppard</td>
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<td>Beam Delivery Systems – CAM: Andrei Seryi</td>
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<td>Global Systems – CAM: Ray Larsen</td>
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<td>LARP LHC Upgrades</td>
<td>LARP – KA1102053</td>
<td>LARP &amp; LHC Upgrades – CAM: Tom Markiewicz</td>
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<td>Acc Dev – KA1502011</td>
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<td></td>
<td>Acc Dev – KA1502011</td>
<td>Accelerator Computation – CAM: Kwok Ko and Cho Ng</td>
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<td>SuperB Accelerator – CAM: Mike Sullivan</td>
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<td>LLRF and Feedback – CAM: John Fox</td>
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<td>RF &amp; Structure Development</td>
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<td>RF &amp; Structure Development – CAM: Chris Adolphsen</td>
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<td>Novel Acceleration Research</td>
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<td>Laser Acceleration – CAM: Eric Colby</td>
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<td>Plasma Acceleration – CAM: Mark Hogan</td>
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<td>Acc Dev – KA1502011</td>
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Briefing on HEP Computing

August 25 in Germantown
SLAC Program in a Nutshell

Ongoing

**Particle Physics**
- BABAR analysis
- ATLAS
- EXO
- SiD R&D
- Theory

**Particle-Astrophysics**
- Fermi GST
- Computational cosmology

**Accelerator**
- Simulations

Projected

**Particle Physics**
- CDMS
- SuperB

**Particle-Astrophysics**
- LSST
- AGIS
## Capabilities and Projects

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<th>BABAR</th>
<th>GLAST</th>
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**PPA Department Heads: August 27, 2009**
Summary of Issues

• Transition to multi-program business model
  – Facility: site power and cooling limits make any additional hardware a challenge, let alone major upgrades from ATLAS, LSST and LCLS
  – Evolution of Linac Operations (BES) support for computing leads to uncertainties in future business model
  – HEP computing no longer BABAR and Detector Operations dominated, but overall HEP computing needs remain large and benefit from efficiencies of scale
  – SLAC coming to grips with overall IT requirements and transition in business computing model
  – New CIO/Director of Computing Division will help define new directions and strategies

• Opportunities for support of existing and future community tools
  – Need to maintain an appropriate level of contribution to the community – G4, xrootd, SPIRES, Root
  – Possible new opportunities supporting data management for small experiments and flexible simulation tools
  – Would like to create headroom to innovate at frontiers of scientific computing
Model for HEP Computing?

- **Elements of program**
  - Identified community software tools: typically multi-institutional collaborations, proposal driven
    - GEANT4, SPIRES, xrootd
  - Identified community toolkit support: no need to reinvent tools for each new small experiments
    - Simulation/reconstruction toolkit, data management toolkit
  - Future scientific computing R&D
    - Core team model augmented by specific projects, similar to Detector R&D approach
    - Typically ~50% support for core developers on HEP computing to provide stable platform
    - Could span both hardware and software capabilities
      - Petacache, GPU-approach to simulations
      - Petascale database development