

ALCPG07 and SiD

- Mark Oreglia, Enrico Fermi Institute, Chicago

- ALCPG07 somewhat restructured from previous:
 - new “Physics Signature” WGs replace theory WGs
 - b/c Separation and tau tagging
 - Jet and photon energy measurement
 - Missing Energy
 - Charged particle momentum, V0 recon, ID of stable charge particles
 - new emphasis on concepts:
 - Concepts parallel sessions Tuesday AM and Friday PM
 - 4 Detector Sessions: Cal, mu/PID/TB, Tracking, Simulation
 - VTX will mostly use the WWS RD review slot...maybe + 1 parallel
 - Simulations will have a “how to use” session
- The intent is to facilitate more activity by showing users how to find/use tools, identify the theory and detector problem areas, and map out what the concepts need to do ... particularly for the LOIs

ALCPG 2007

from Monday 22 October 2007 (08:00) to Friday 26 October 2007 (18:00)

: Sessions / : Talks : Breaks

	Monday 22 October 2007	Tuesday 23 October 2007	Wednesday 24 October 2007	Thursday 25 October 2007	Friday 26 October 2007
AM	08:30 Joint Plenary () (until 12:30) {} 08:30 Welcome (Pier Oddone (FNAL)) 08:40 The Physics Landscape—Now and Then (Michael Peskin (SLAC)) 09:15 The ILC Physics Menu—500GeV and 1TeV (Howard Haber (Santa Cruz Inst. for Particle Phys. (SCIPP) - Univ. of California)) 09:50 --- break --- 10:20 GDE Report (Barry Barish (Caltech)) 11:00 Experimental Overview (John Jaros (SLAC)) 11:40 Report from the Agencies 12:30 --- lunch ---	08:30 Detector Concepts I () (until 12:00) {} 08:30 ALCPG Loop/Vertex (Sally Dawson (BNL)) Doreen Wackeroth (SUNY at Buffalo)) Uli Baur (SUNY - Buffalo) X () (until 12:00) {} 08:30 GDE Parallel Session () (until 17:00) {} 10:00 --- break --- 12:00 --- lunch ---	08:30 Physics Signature-III: Missing Energy (James Alexander (Laboratory of Nuclear Studies)) Carola F. Berger (SLAC)) Konstantin Matchev (Univ. of Florida)) Tao Han (Univ. of Wisconsin)) Graham Wilson (KU)) Bill Morse (BNL)) () (until 12:00) {} 08:30 ALCPG Detector Session III - Tracking (Bruce Schumm (University of California at Santa Cruz)) Daniel Peterson (Cornell)) Keith Riles (High Energy Physics) J () (until 12:00) {} 08:30 GDE Parallel Session () (until 15:00) {} 10:00 --- break --- 12:00 --- lunch ---	08:30 Physics Signature-IV: Charged Particle Momentum Measurement, V0 Reconstruction, and Identification of Stable Charged Particles (Henry Band (U. Wisconsin)) Ayers Freitas) Timothy Nelson (SLAC)) Bruce Schumm (University of California at Santa Cruz)) Shufang Su (Univ of Arizona) J () (until 11:15) {} 08:30 ALCPG Detector Session IV - Simulation (Norman Graf (SLAC) J () (until 12:00) {} 08:30 GDE Plenary () (until 14:30) {} 10:00 --- break --- 11:15 Physics Signature Benchmarks Round-up () (until 12:00) {} 12:00 --- Lunch ---	09:00 ALCPG Summary () (until 12:00) {} 09:00 Physics Signature I Report 09:20 Physics Signature II Report 09:40 Physics Signature III Report 10:00 Physics Signature IV Report 10:20 Benchmark Round-up Report 11:10 Detector Summary 11:50 ALCPG Closing Remarks 09:00 GDE Plenary () (until 12:00) {} 10:40 --- break --- 12:00 Joint Closing Plenary () (until 12:30) {} 12:30 --- Box Lunches ---
PM	14:00 Physics Signature-I: b/c Separation and Tau Tagging () (until 18:00) {} 16:00 --- break --- 14:00 GDE Plenary () (until 18:00) {} 14:00 EU Regional Report (Eckhard Eilen (DESY)) 14:40 Asian Regional Report (Kaoru Yokoya (KEK)) 15:20 Americas Regional Report (Tor Raubenheimer (SLAC)) 16:00 --- break --- 14:00 ALCPG Detector Session I - Calorimetry (Chiman Chakraborty (Northern Illinois University)) Jose Repond (Argonne National Laboratory)) David Strom (Oregon) J () (until 18:00) {}	13:30 Physics Signature-II: Jet and Photon Energy Measurements (Raymond Frey (University of Oregon)) Stephen Magill (Argonne National Laboratory)) Frank Petriello (University of Wisconsin at Madison)) Alexei Raspereza (MPI Munich)) Tim Tait (ANL) J () (until 17:00) {} 13:30 ALCPG Detector Session II - Muons/PID/Test Beams (Gene Fisk (FNAL)) Paul Karchin (Wayne State University)) Jaehoon Yu (University of Texas at Arlington)) Robert Wilson (Colorado State) J () (until 17:00) {} 15:00 --- break --- 17:00 --- Wine and Cheese --- 17:30 Dueling Pianos () (until 19:00) {}	13:30 ALCPG Detector Plenary () (until 16:00) {} 16:00 --- break --- 16:30 Colloquium () (until 17:30) {}	13:30 Report from US Funding Agencies on Detector R&D () (until 14:30) {} 13:30 Tour of Electropolishing Facility - ANL () (until 17:00) {} 14:30 Tour of ALCPG Detector R&D () (until 17:00) {} 14:30 Tour of ILC Accelerator R&D () (until 17:00) {} 17:00 Banquet Transportation () (until 17:15) {} 18:00 --- Banquet - Walter Payton's Roundhouse ---	13:15 Detector Concepts II () (until 17:30) {} 15:30 --- break ---

Charge to the Detector WGs:

For ALCPG07 there will be some departures from the format used in the past: theory groups have been reformulated and the detector status summary (Friday) will be one global talk rather than separate talks for each subsystem.

The ALCPG07 Detector WG leaders are asked to cover the following topics

1. technical progress and plans
2. work with physics working groups, including benchmarking
3. provide a set of 3-5 summary slides by Wednesday afternoon to the detector summary speaker for the presentation on Friday morning; an updated version will be accepted on Thursday.

In addition to providing an opportunity for presentation of recent R&D results, detector parallel sessions at ALCPG07 should cover integration into detector concepts.

Prior to ALCPG07 in October, we ask the Detector WG leaders to communicate with the physics group leaders to develop a strategy for theory-detector coordination.

The physics groups will be working on benchmarks, and we ask the detector WG leaders to participate in this effort.

Time will be limited for parallel sessions, so this coordination might help to avoid unnecessary duplication.

So How Should SiD use the Concepts Sessions

- **Summarize:**
 - what's been learned since the DOD
 - status of detector integration
 - RD status on crucial subsystems
 - status of costing and optimisation
- **Organize:**
 - outline what needs to be done for LOI
 - re-identify task forces for sections
 - establish schedule and milestones
- **Proselytize:**
 - make it clear to new users how they can/should contribute
 - identify manpower problems and try to fix them

The LOI

- The LOI should contain information on the proposed detector, its overall philosophy, its subdetectors, and how this will work to address the ILC physics questions. The evaluation of the detector performance should be based on a list of agreed upon benchmarks, which will be the same for all LOIs. It should contain a discussion of integration issues with the machine. It should be developed enough to allow a first preliminary assessment of civil engineering issues like interaction hall, support halls etc. It should enable the reader to judge the potential of the detector concept and to identify the state of technological developments for the different components. Alternative technological options should be elaborated. Where needed, areas of further research and development should be identified, together with timelines and milestones. The group submitting the LOI should define its position and role in the ongoing international research and development for a detector at the ILC. The LOI should include a preliminary cost estimate. The overall length of the LOI should not exceed 100 pages.
- The LOI can, but need not, refer to other documents where more technical details are given. If so these documents should be submitted together with the LOI.
- In addition to a concise technical description of the proposed detector the LOI should present the structure of the group which is proposing the detector. The resource needs and their evolution in time should be presented, along with a plan to mobilize these resources. The LOI will not represent any formal commitment of the groups signing it to the project or the proposed detector. It should however enable the reader to judge the capacity and the seriousness of the groups to carry out the work until the EDR.