



ICFA mission and membership



ICFA Panel



ICFA Activity



Atsuto Suzuki (KEK), Chair ICFA

Created to facilitate international collaboration in the construction and use of accelerators for high energy physics.



CERN Member States: *R Heuer, J Mnich, T Nakada*
USA: *R Brock, P Drell, P Oddone*
Russia: *E Levichev, A Zaytsev*
Japan: *S Komamiya, A Suzuki*
Canada: *W Trischuk*
China: *H Chen*
Other Countries *C Avila, I-SS. Ko, G Taylor*
C11: *P McBride*
(Secretary *R Rubinstein*)

◆ Beam Dynamics (chair: W Chou)

→ to encourage and promote international collaboration on beam dynamics studies for present and future accelerators

2009 Linear Collider Accelerator School : Beijing, 69 applicants from 21 countries

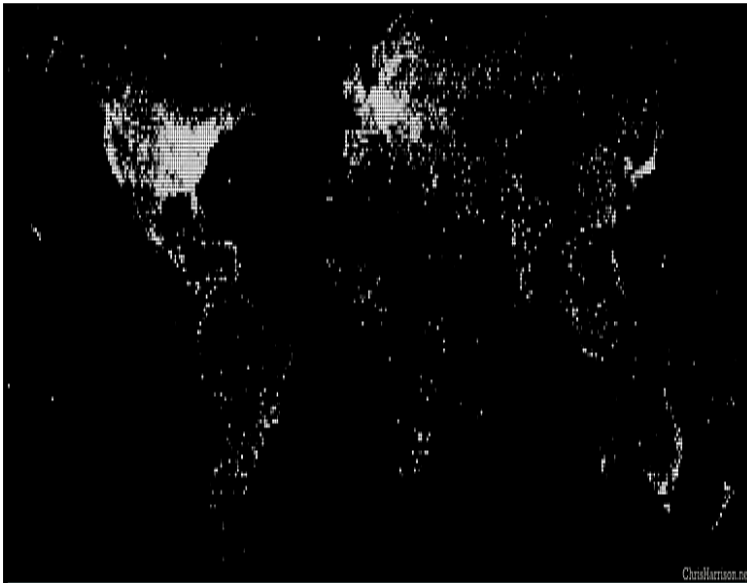
2010 Linear Collider Accelerator School : 25 October to 5 November in
Switzerland

Workshops in 2010 : **High Brightness Beams** (September, Switzerland),
Future Light Sources (March, SLAC),
Electron Cloud (October, Cornell)

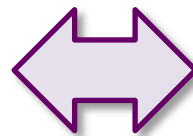
◆ Advanced and Novel Accelerators (M Uesaka)

→ to extend and support international collaboration and communication in the field of new acceleration techniques.

- ◆ Instrumentation Innovation and Development (A Cattai)
 - to stimulate world inclusive involvement in the innovation and development of new instrumentation for experiments at future accelerators.
- ◆ Interregional Connectivity (H Newman)
 - to monitor and review interregional connectivity, and make recommendations for network improvements.



World Internet Connection Density 2008
<http://www.chrisharrison.net/projects/InternetMap/>



The World At Night
<http://www.bertc.com/subfour/truth/nightworld.htm>

◆ Particle Physics Data Preservation and Long Term Analysis in HEP

→ This decade a few major experimental programs at colliders complete.

What is the **fate** of the collected data ? (C Diaconu)

→ An international study group has been examining the case for, possible mechanisms to carry out, and preservation of data from experiments.

International Study Group on HEP Data Preservation



- Collider Experiments
 - e^+e^- , ep , pp^-
- Computing Centers
- Some funding agencies

- About 50 contact persons

Coordination

Chair: Cristinel Diaconu (DESY/CPM)

Working Groups Convenors:

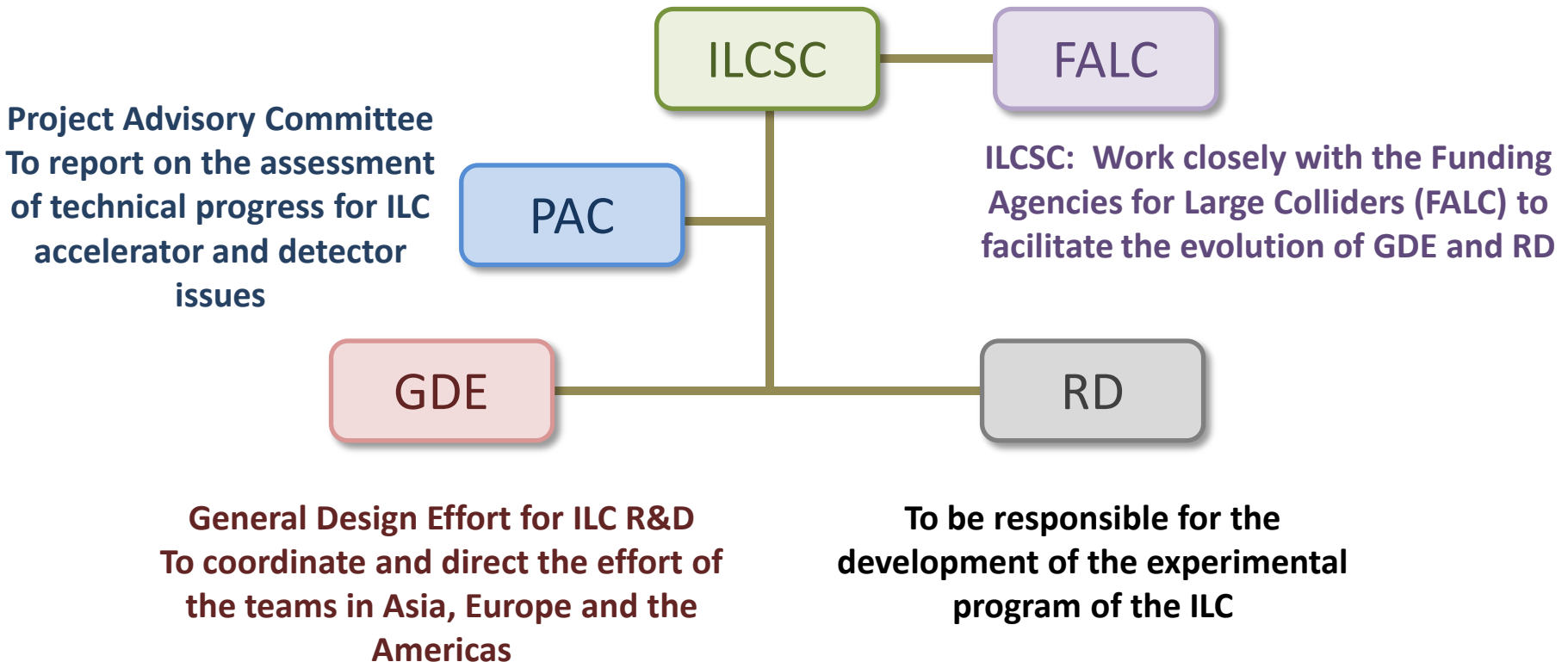
- Physics Case** François Le Diberder (SLAC)
- Preservation Models** David South (DESY), Homer Neal (SLAC)
- Technologies** Stephen Wolbers (FNAL), Yves Kemp (DESY)
- Governance** Salvatore Mele (CERN)

International Steering Committee

- DESY-IT: Volker Gülzow (DESY)
- H1: Cristinel Diaconu (CPM/DESY)
- ZEUS: Tobias Haas (DESY)
- FNAL/DoE: Amber Boehnlein (DoE)
- FNAL-IT: Victoria White (FNAL)
- D0: Dmitri Denisov (FNAL), Darien Wood (FNAL)
- CDF: Jacobo Konigsberg (FNAL), Robert Roser (FNAL)
- IHEP-IT: Gang Chen (IHEP)
- BES III: Yifang Wang (IHEP)
- KEK-IT: Takashi Sasaki (KEK)
- Belle: Masanori Yamauchi (KEK), Tom Browder (Hawaii)
- SLAC-IT: Richard Mount (SLAC)
- BaBar: Francois Le Diberder (LAL/SLAC)
- CERN-IT: Frederic Hemmer (CERN)
- CERN/PARSE: Salvatore Mele (CERN)

- ◆ [International Linear Collider Steering Committee](#) (E Iarocci → J Bagger)
 - Mission: to promote the construction of an e^-e^+ linear collider through world-wide collaboration.

Oversight Structure for the ILC

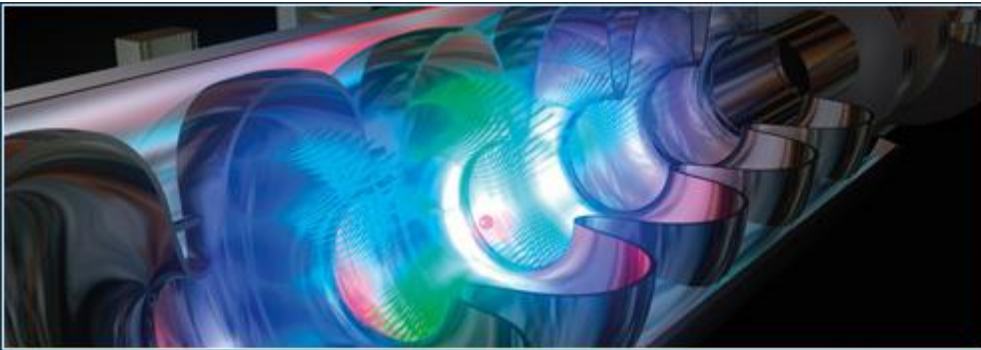


◆ International Linear Collider Steering Committee

→ **Actions** in 2008 - 2010

- GDE and RD are on track for design reports (TDR) by the end of 2012
 - ✓ A major activity of the GDE R&D program is on the SC cavity gradient toward the 2012 goal of 35 MV/m with a 90 % production yield.
 - ✓ Evaluation of the three submitted detector LOIs was carried out in 2009, and RD will produce the baseline design for two detectors for TDR.
- The current goals are to optimize cost/performance, update the value estimation and schedule, and produce a Project Implementation Plan.
- There is growing interaction between ILC and CLIC on both accelerator and detectors

ICFA Seminar



October 28-31, 2008
SLAC National Accelerator Laboratory
Menlo Park, California
Kavli Auditorium

- takes place every three years.
- aims at bringing together government officials involved in strategic decisions for HEP, representatives of the major funding agencies, the directors of major HEP laboratories, and leading scientists from all of the regions of HEP activity.

The 10th : CERN in 2011

◆ Joint Task Force of ICUIL and ICFA Panels

to explore possible cooperation and common activities, related to the current active research on laser acceleration of particles



Joint „Task Force“



A Proposal to ICFA, put forward by:

- ICFA Panel on Beam Dynamics (Weiren Chou)
- ICFA Panel on Advanced and Novel Accelerators (Mitsuru Uesaka)
- ICUIL Sub-Group on Laser Acceleration (W. Leemans, represented by W. Sandner (ICUIL Vice Chair))

Mission:

“To promote and encourage international collaboration between accelerator and laser communities for future applications of particle acceleration“

◆ Particle Physics Situation --- Now and the Remainder of the Decade

- In the past, ICFA has generally only been involved in global, not local, projects, but since particle physics is an international endeavour, ICFA should perhaps look at the complete picture, even though it has not done so in the past.
- **ICFA reached a consensus that there would be value in writing a document describing the particle physics opportunities across the world in a coherent manner. A steering committee was built up.**

◆ Revising the ICFA Guidelines

- A discussion was initiated on whether the ICFA Guidelines (originally adopted in 1980) should be revised.

ICFA Guidelines : to assure the open-access to projects

- ✓ to recognize that experimental physicists from all regions will wish to gain access to these few machines in order to pursue their research

Trends in Accelerator Science (Big Science) Projects

- **Project Size** : **Bigger and Bigger**
- **Project Cost** : **Higher and Higher**
- **Project Time Span** : **Longer and Longer**

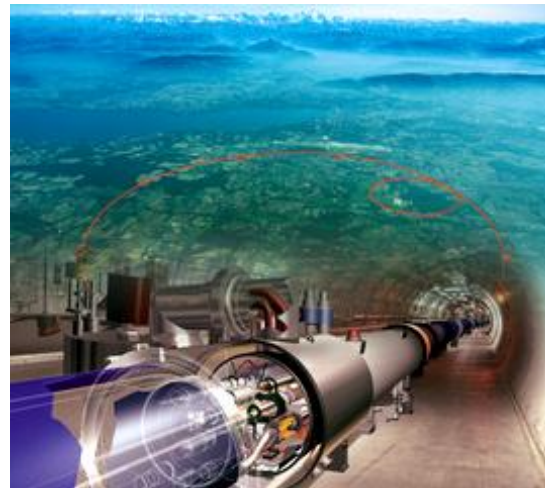
- ◆ Guideline #5 : Experimental groups should not be required to contribute to accelerator or experimental area running costs.

- Although the general feeling is not to change the guidelines at this time, it potentially exists that the next collider at the energy frontier will require pooling resources from all over the world for construction, maintenance and operation.

- Discussions are underway



Congratulation on Starting the LHC Experiments



➤ **Historical Progression :**

The scientists of the HEP (high energy physics) communities in the world are all excited by the long-awaited beam collisions.

➤ **Our expectations are mounting day by day.**

What kind of windows will open for new physics?



**ICFA will continue helping to
advance the particle physics**