

Funding Agencies for Large Colliders

Update to CERN Council

Walter F. Davidson
National Research Council Canada

24 June 2011

Introduction

- Informal body, formed in 2003, meets twice yearly to discuss status and perspectives of particle physics
- FALC is composed of senior representatives from the main funding agencies in 3 regions:
 - The Americas (Canada, US)
 - Asia (China, India, Japan, Korea)
 - Europe (France, Germany, Italy, Spain, UK; and CERN Council, CERN)

Timeline of FALC

2003-2005: UK chairs

2006-2008: Italy chairs

2009-2011: Canada chairs

2012-2014: Japan to chair

Membership

- Representatives of funding agencies (up to 5-7 per region), or their nominees: ideally, agency heads
- One laboratory director from each region
- Invited as observers and providing status reports:
 - Chairs of ICFA and ILCSC
 - Director, ILC GDE

2011 FALC meetings:

- 22 January 2011 at SLAC, Stanford University, California
- 6 October 2011 at CERN (on margins of ICFA seminar)

Context

- Regional studies and reports commissioned in Europe, Japan, and the US unanimously placed highest priority on exploration of *Terascale* energies at the LHC and a future linear collider.
- The International Linear Collider has been identified by world-wide consensus of the community as a high priority for a future facility.
- Completion of the ILC technical design is on track for completion by end of 2012. FALC contributes to Common Fund of the ILC Global Design Effort (GDE).
- Studies of alternative CLIC technology that could potentially reach higher energies than the ILC are also in progress.

FUNDING AGENCIES FOR LARGE COLLIDERS

MEETING AGENDA

22 January 2011

Conference Room, 3rd Floor

Kavli Institute for Particle Astrophysics and Cosmology

SLAC National Accelerator Laboratory

2575 Sand Hill Road, Menlo Park

California, USA

1	9:00	Opening and Introductory Remarks	W. Davidson
2	9:10	Approval of Minutes of the FALC meeting held on 19 June 2010 - Public note - Detailed minutes	W. Davidson
3	9:15	Actions and matters arising - Chair - Terms of Reference - Message to OECD - Debrief from ICHEP meeting (Spiro) - 2 nd FALC Report	W. Davidson
4	9:30	Oral Report from Meeting of Preparatory / Governance Subgroup of 21 January 2011 Oral Report of GDE Audit Group	M. Nozaki R. Wade
5	10:00	Long term plans and R&D projects (2011-2014) of the major laboratories in the three Regions - CERN - FNAL - KEK and JPARC	R. Heuer P. Oddone A. Suzuki
6	11:30	Update on European Strategy	M. Spiro
7	11:45	ILC Progress Trajectory 2011-2014	B. Barish
8	12:05	Prospects for CLIC in period 2011-2014	S. Stapnes

12:30 – 13:00 Lunch

9	13:00	Discussion on relationship of non-accelerator projects to FALC (follow-up from last meeting)	M. Spiro
---	-------	----------------------------------------------------------------------------------------------	----------

10	13:15	Reports: - Update on GDE Governance - ILCSC update, Site Selection and discussion on structures post-2012	B. Foster J. Bagger
11	13:50	ICFA Report	A. Suzuki
12	14:20	Discussion on cooperation in Global Projects	A. Suzuki
13	15:45	Other Business - Next chairmanship in 2012 - Date/ location of next meeting	
14	16:00	Adjourn	

Role of FALC

- Ensures that its constituent funding agencies from around the globe are fully and mutually conversant with each other's program constraints and with the scale, costs, industrial relevance and governance issues of the successor machine to the LHC.
- Proactively raises awareness and increases recognition of FALC to ensure governments are fully aware of its work.

Rationale

- As the particle physics program increasingly expanded beyond a national or regional level, the need for global scale facilities emerged – as did the need for interaction of funding agencies.
- Unique role as a venue for funding agencies to communicate with one another information about respective programmes, plans and priorities related to future large projects.
- Coordination of global resources has been crucial to the realization of opportunities such as LHC upgrade, linear collider, and global neutrino facility.

Evolution

- “Funding Agencies for the Linear Collider”, has now expanded to “Funding Agencies for Large Colliders”.
- Initially, the prime focus was status of funding for R&D towards a sub-TeV lepton linear collider and perceptions of prospects for its future.
- While the initial R&D design phase could be funded through existing mechanisms, there was a need for global governance and an international design team as the ILC moved into an engineering design phase.
- In parallel, R&D towards CLIC, a potentially higher energy linear collider technology, was to be pursued.

Evolution *(cont'd)*

- Progress towards a construction decision for a linear collider could not be made in isolation without taking into account the wider picture of particle physics research.
- Remit expanded in 2006 to promote global coordination of, and information exchange on all large international high energy and particle astrophysics projects: R&D programs for LHC upgrades; the near term (ILC) and future (CLIC) linear colliders; and the worldwide neutrino program (e.g.: proton driver, neutrino factory).

Current activities and issues under discussion

- Summary talk at ICHEP 2010 (M. Spiro)
- Produced annual report 2009-2010
- Initiated relationship with OECD
- Connection of ILC and FALC
- Governance models (in-kind contribution models for construction stage)
- Multi-national laboratory/Decentralized approach

Anticipated future discussions for FALC:

- Results emanating from LHC, neutrino and astroparticle physics and accelerator R&D
- Range of activities during expected delay post 2012
- Operational costs of global projects: Should they be shared by or covered by host nation?
- How to bridge gap between conclusion of ILC GDE and project start of next LC?
- Siting for large collider as well as smaller programs



Meeting of FALC at
SLAC, Stanford University
January 2011

Outlook

- There are parallels and overlaps between what CERN Council and FALC are discussing.
- FALC is still an informal body, now going into its 19th meeting.
- Interplay between LHC, neutrino physics, and astroparticle physics results and accelerator R&D is leading to new elements for global discussion on the future of the field.
- FALC provides the necessary global forum at level of governmental funding agencies.
- FALC looks forward to CERN Council's observations.

Questions and Discussion