

July 15, 2011

LCSGA's Response to the ILCSC Working Group Charges

At the ILCSC meeting on February 17, 2011 at IHEP, Beijing, discussions took place regarding the ILC Governance past 2012. Some of the points that emerged in these discussions were:

- Keep Global Design Effort (GDE), and Research Director (RD) like organizations for technical decisions and configuration management
- Whatever takes over from the ILCSC should be under ICFA, since this process works now
- Any new governance structure should be extendible to CLIC
- Do not use the term "Multilab", perhaps instead the Linear Collider Consortium (LCC)
- The ILC governance discussions will continue at the ILCSC meeting in Mumbai

With these ideas in mind, three regional working groups were set-up to include Fuster and Nakada (Europe), Gao and Komamiya (Asia), and Ozaki and Weerts (Americas) as its members.

The working groups will study:

- How the regions will interact with LCC?
- Who will be on its Board of Directors?
- What organizations will be under the Board, etc, and report at the Mumbai meeting of the ILCSC?

This note describes the Americas' position that was developed after discussions amongst the members of the LCSGA.

1. What should the interim organization be to replace the ILCSC/GDE post 2012?

As discussed at the ILCSC meeting in Beijing, we favor a model in which an oversight board, tentatively called the Linear Collider Consortium (LCC), will be established under the International Committee for Future Accelerators (ICFA) to guide and monitor the progress in the R&D, engineering/design, and maintenance/ improvement of the collider configuration. Since ICFA was created in 1976 by the International Union of Pure and Applied Physics "to facilitate international collaboration in the construction and use of accelerators for high energy physics", this arrangement will give the LCC a formal standing as an internationally recognized body. It was also assumed that the R&D, engineering design, and the configuration maintenance will be continued by an executive organization, here called Linear Collider Organization (LCO), and headed by a Director as indicated in the organization chart below. This organization will perform similar functions as the present GDE beyond 2012. The composition of LCC could resemble that of the present ILCSC but we advocate that ILCSC reassess the membership at this time. The structure of the LCO could be quite different from the current GDE, depending on the scope of its activities.

2. What should be the charge of the interim organization?

Having a new organization would have benefits in recognizing the successful completion of the mandate of ILCSC/GDE, and in recognizing that a new era starts. We anticipate that the duration of this interim organization will be until LHC's discoveries are understood, thus to about mid-decade.

While the charge remains to be formally established by ILCSC and ICFA, we see as important components: (a) maintain and evolve the ILC TDR design under established change control mechanisms, (b) continue system tests now underway or planned, (c) conduct R&D on topics related to an energy increase and to cost reductions, and (d) develop value engineering and industrialization models.

The main function of the organization would be to carry out the further technology development on ILC, and perhaps in future also CLIC, and to oversee Detector R&D for a future linear collider. The new organization should have a structure that can incorporate CLIC activities when and if it becomes appropriate to do so. Monitoring the LHC physics results and interpreting them as need be for the LC and detector designs will be important. The new organization would continue to describe the possible nature of an LC project organization, and to advise funding agencies on its establishment.

At present, we prefer that the LCO and the CLIC Collaboration be kept separate at the level of R&D activities (partnering where appropriate on common technical issues).

We also prefer to have better integration of activities by physics/detector communities with those on accelerator issues than at present. Thus we advocate that the current Research Director role be brought into the LCO organization as shown on the organization chart below.

We expect that initially the LCC will provide oversight to ILC and detector R&D, but when and if the time is right, it should also provide oversight of CLIC R&D. In addition, we expect the LCC to be involved in setting the performance parameters for the LC based on the results from the LHC.

3. What organizational model is most appropriate for the Americas region?

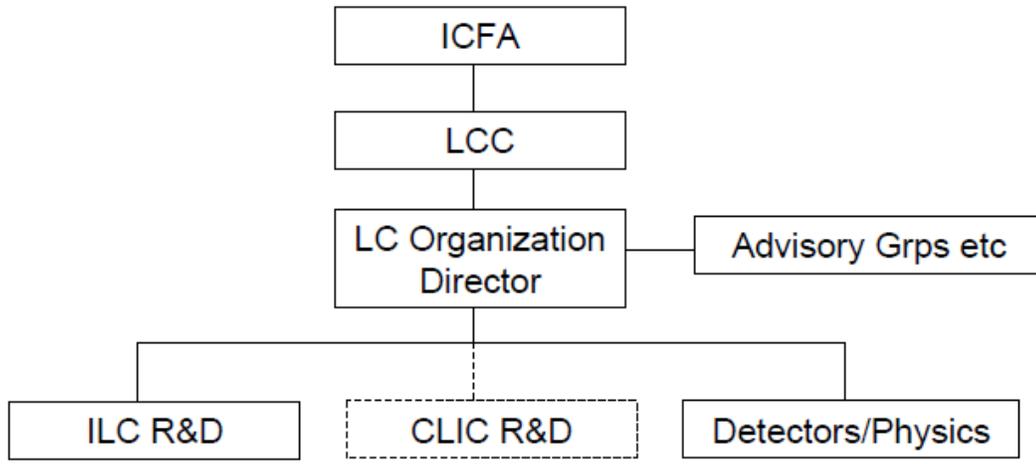
After extensive discussions regarding whether or not the Americas regional group structure should be that of a virtual Laboratory or a lead Laboratory model, we came to a preference of maintaining the Americas Regional Team (ART) concept for actual accelerator R&D and Project Management type activities. That is, we see the organization as a virtual laboratory model, where the Director of the ART should come to an agreement with the participating laboratories regarding these tasks, while reporting to the LCO for policy and technical guidance on one side, and being responsible to funding agencies on accountability for the accomplishment of the mission and the funds.

At present the ILC Physics and Detector activities are guided by the ILC Research Director (RD). There is close cooperation between the CLIC and ILC physics/detector groups. This basic structure would continue after bringing the RD into the LCO organization and should be aimed at formulating R&D tasks and milestones, interfacing to critical accelerator subsystems, and monitoring the emerging physics landscape. In the U.S., the Physics and Detector effort is now moving towards a framework that coordinates activities covering all lepton colliders. The Americas coordinator of the ILC physics and detector activities would be identified as part of this broader framework to provide an interface to the specific ILC needs. This regional coordinator would serve as deputy Research Director in a somewhat parallel role to the ART director.

4. What roles are most appropriate for laboratories and universities to carry out in the 2012 to 2015 time frame?

The activities of importance would be the continuation of R&D on the high RF acceleration gradient aiming at higher energy reach for a given linac length, further studies of accelerator physics, maintenance and improvement of the system configuration with an aim of cost reduction, R&D toward detectors for an eventual LC, and development of the physics program in light of LHC results. We could anticipate that Laboratory work on superconducting RF will be pursued at Fermilab with JLab, Argonne and other institutions, and that accelerator physics and detector/physics performance work would be continued at SLAC with other institutions. In addition, university and other national laboratories in the Americas would continue participating in the ILC R&D utilizing their technical expertise under ART framework.

Organization model



Schematic organization chart as envisioned by LCSGA.