

New Americas Oversight Organization for Linear Colliders

With the new Linear Collider Board (LCB) now superseding the International Linear Collider Steering Committee (ILCSC) and expanding its purview to cover both ILC and CLIC, in view of the recent physics discoveries, the Japanese interest in hosting the ILC project, and considering the current state of flux regarding the US engagement, we feel that it is an appropriate time to reset the way that LC organization for ILC oversight and advocacy in the Americas is structured. This note provides the basis for such reorganization.

For the past decade, two self-organized bodies have conducted LC activities in the Americas. The Linear Collider Steering Group of the Americas (LCSGA) was established by relevant laboratory directors to provide high level oversight and to connect to international bodies. The Americas Linear Collider Physics Group (ALCPG) emerged from a previous association of interested physicists that served as the Americas portion of the international World Wide Study (WWS) and was incorporated as a subcommittee of LCSGA focused on physics, detectors and outreach activities. The WWS offers forums for physicists, including theorists, interested in linear collider physics to conduct periodic meetings to present ideas and progress.

The international LC activities on ILC were conducted through the Global Design Effort (GDE) to conduct the appropriate R&D and develop a technical design of a linear collider based on superconducting RF cavities. The TDR has been reviewed by the relevant committees and is being finalized for delivery to ICFA in June. CERN and its international partners have pursued a CLIC design based on room temperature copper cavities driven by RF derived from intense drive beams, leading to a conceptual design report in 2012

Parallel to the GDE, the Research Directorate (RD) was established to oversee candidate experimental detectors and stimulate R&D and tools for the ILC. Two detector concepts were validated, ILC and SiD and were presented as detailed conceptual designs in parallel with the GDE TDR in 2013. The same two concepts were adopted in modified form by the CLIC consortium as the basis for detectors at that facility.

The new Linear Collider Collaboration (LCC) now brings together the three previously separated strands of linear collider activity – ILC, CLIC and detectors – into one global organization, with a director, deputy director, three associate directors for the three activities, and three representatives for the Americas, Asian and European regions.

The several organizations that evolved in the Americas in the past decade had a certain degree of personnel overlap. The regional representatives of WWS also served as regional directors of the RD. The LCSGA and ALCPG had many members in common.

In view of the changes over the past year in physics discoveries, international organization, broadening of the scope of linear collider options, interest in pursuing a LC in Japan, and in view of the somewhat free-form evolution of the advisory bodies in the Americas, it is natural to consider resetting these organizational structures. The global situation now is quite different from that in 2001, and the needs for taking the next steps are also quite different. Another motivation comes from the appointment of Americas' representatives to the LCB who were not previously members of LCSGA or ALCPG.

As the new LCB is imagined to remain in place only until such time as a project is initiated and a host laboratory is designated (the initial mandate of the LCB is three years), the organization within the Americas should also focus on a relatively short time span, with re-evaluation on a three year time scale.

The responsibilities currently undertaken by LCSGA and ALCPG are:

LCSGA

- Represent and advocate a linear collider project to Americas funding agencies;
- Represent the Americas position in the ILCSC/LCB through the Americas members of ILCSC/LCB;
- Advocate for R&D on detectors and accelerators to Americas funding agencies.

ALCPG

- With international partners, develop the physics case for a linear collider project;
- Advocate and coordinate detector R&D appropriate for linear colliders within the Americas and with international partners;
- Explain and advocate for linear collider research in the broader physics communities in the Americas;
- Stimulate the development of realistic detectors for linear collider experiments, and foster the appropriate international bases for detector collaboration;
- Organize linear collider workshops within the Americas and coordinate with the WWS and organizers of workshops elsewhere.

Although the functions of the two organizations differ, they are related and as noted above, there is overlap in the memberships. Some gain in transparency, coordination and focus could be achieved by merging the two groups into one. We thus charge a new group that would fulfill the roles noted above for both LCSGA and ALCPG, named the: Americas Linear Collider Committee (ALCC).

There are several constituencies that need to be represented – a balance among participating countries in the Americas, representatives from the accelerator, detector and physics communities, and of course inclusion of LCB members. At present, only the US and Canada are formally engaged in LC work but we note that expansion to Latin America would be highly desirable and if achieved, would result in some expansion of the ALCC.

The membership of ALCC would include:

1. The 5 Americas members of LCB, *ex officio*;
2. The LCC associate/deputy/regional directors from the Americas region, *ex officio*;
3. Directors of Fermilab and TRIUMF, *ex officio*;
4. Directors or designees from at least two other major regional laboratories engaged in linear collider activities (presently ANL, BNL, Cornell, LBNL, SLAC, TJNAF);
5. Three experimental physicists involved in LC experiments, at least two of which are from a university. Nominations from the SiD and ILD collaborations should be considered for these positions. It is desired that each collaboration be represented;
6. Three accelerator physicists involved in LC projects;
7. One theorist engaged in linear collider physics;
8. At least 2 members from Canada.

The maximum number of ALCC members would be 20, but a single person would often fill more than one position, thus reducing the overall size (e.g. a Canadian theorist or a Lab director LCB member would cover two categories).

The terms for members will be three years. Replacements due to changes in *ex-officio* positions or retirements from ALCC would be filled as they occur.

In past LCSGA and ALCPG have been free-standing organizations, not formally reporting to any other body. Indeed we do not see a natural trans-national organization to which ALCC would report (the Americas has no organization equivalent to ECFA). We propose therefore that an ad hoc group consisting of the Fermilab and SLAC directorate members of LCB, the Canadian LCB member, a non-laboratory member of the LCB, Americas Regional Team director, and a representative of at least one of the detector collaborations be formed to choose the initial membership and appoint from that group a chair of ALCC. The current LCSGA chair will charge this ad hoc committee.

We desire that the new organization be put in place by the end of April, 2013.