

Research Director's Report

20 March 2008



Sakue Yamada

We call for Expressions of Interest

Several steps have been taken since my last report in February. At the ACFA-GDE joint workshop in Sendai held two weeks ago, I [reported](#) on the latest development in some detail and exchanged opinions with participating colleagues.

First good news: the International Detector Advisory Group (IDAG) membership list is now complete. The group will give advice on the validation process of Letters of Intent and detector R&D. The members include experienced experimentalists, active phenomenology theorists and ILC accelerator experts. They are: Michael Danilov (ITEP), Michel Davier (LAL/Paris-Sud University), Abdelhak Djouadi (Paris-Sud University), Eckhard Elsen (DESY), Paul Grannis (SUNY at Stony Brook), Rohini Godbole (Indian Institute of Science), Dan Green (FNAL), JoAnne Hewett (SLAC), Tom Himel (SLAC), Dean Karlen (Victoria University), Sun-Kee Kim (Seoul National

University), Tomio Kobayashi (Tokyo University), Weiguo Li (IHEP), Richard Nickerson (Oxford University) and Nobukazu Toge (KEK). The group is chaired by [Michel Davier](#).

I am most grateful to the members who are willing to spend their precious time helping ILC detector and physics activities. While some members have been playing key roles in the ILC activities for a while, many members are from outside our ILC community. I believe it is important and valuable that the detector groups present their ideas before IDAG and communicate with competent physicists of the neighbouring fields. Some IDAG members who participated in the Sendai ACFA-GDE workshop had an informal preparatory meeting there to get acquainted with each other. IDAG will formally start its activity during the European Committee for Future Accelerator (ECFA) [workshop](#) in Warsaw in June.

The other important recent step was the call for Expressions of Interest (EOI). I would like to ask those groups which intend to submit Letters of Intent (LOIs) to send me an email with the names of currently participating institutions and up to two names of contact persons. There are many issues to discuss and to do together with the LOI groups before the LOIs can be submitted. So far we have been assisted by the [World Wide Study \(WWS\)](#) roadmap group to contact the detector concept groups. But now we need to communicate directly with the future LOI groups which have been formed. We are aware that the groups are still changing. This will continue until they submit their LOIs next March. I wish to stress that it is not the intention of the call for EOIs to fix the groups. We want to know that there is a well defined kernel to the group and that there are enough resources to study the required benchmark reactions and to participate in various common task teams.

Several common tasks are planned at present. The details of each task will be discussed with the LOI groups when they are identified. The most urgent one will be the Machine-Detector Interface team, which will collaborate with the GDE's Beam Delivery System group in the studies of machine-detector integration. A critical item to be studied is the [push-pull mechanism](#), a single interaction region with two detectors. A Detector R&D Panel will deal with detector R&D for future developments. This panel will communicate with the detector R&D collaborations of various components. A Software Panel will take care of common software tools for simulation, data acquisition, reconstruction and so on. A Physics Panel will continue to study the required machine parameters, including what should be the initial energy of the ILC. The panel collects information from related fields and prepares for the first data from the LHC and may wish to study different scenarios. There are also strategic issues which may relate to the accelerator design.



Research Director Sakue Yamada requests Expressions of Interest.

Seeing all these issues in front of us, I hope people understand why we want to identify LOI groups soon. Many more issues are waiting to be addressed. In Sendai, there were several remarks that it is too early to fix things. There seem to be still some misunderstandings, even among ILC people. The present call for LOIs and the call for EOIs linked to it are not for detectors to be built. The validated detectors will be implemented in the accelerator design in order to demonstrate that desired physics can be obtained with detectors that are practical and realistic. Certain parameters may need to be fixed to finalise the accelerator design in the machine-detector interface area. But the groups will not be fixed. When a decision is made to build the ILC, there will be a new process of proposals for detectors that can actually be constructed. In that sense, the step of EOIs and LOIs we are now organising is unprecedented in the history of the high-energy physics community.

-- *Sakue Yamada*