

*ILC NewsLine presents a new column from the Research Director Sakue Yamada.*

### A novel challenge



Sakue Yamada

The invitation to become the newly created research director for the International Linear Collider detector design was a surprise. I have always been aware that an electron positron collider is a powerful tool for particle physics. I started my career in high energy physics in this field, and I enjoyed many exciting years. I also participated in various discussions about a future linear collider project. But that was a long time ago. In recent years, I watched from the sidelines and followed the international efforts organised to design a linear collider under the leadership of the Global Design Effort. After discussions with the ILC Steering Committee and several key physicists, I learned how far things have developed and why they introduced a Research Director.

My understanding was the following: The detector concepts, which emerged from a wide range of lengthy R&D studies, should crystallise in such a way to assure that they will produce physics results aligned with the ILC project. The ILCSC decided to make a call for Letters of Intent, out of which two concepts will be selected to become part of the Engineering Design Report. Through this process, well coordinated communication between the detector concept groups and the GDE accelerator design team will be established in order to optimise both the accelerator and the detector designs. There should be, however, enough freedom left so that the recommended detector concept groups may once again be reorganised when the real construction of the ILC starts. This flexibility will allow new ideas to emerge. The task of the Research Director is to conduct this process.

Guessing the amount of work that is already done, in progress or about to be completed (and I may only know part of it), I find that it will be a big challenge to carry out this task. On the other hand, as my friends tell me, a fresh view and some experience with large international collaborations, as well as managing experimental programmes, may be useful. The challenge has an unprecedented aspect. Many items must become concrete solutions. The entire system, however, remains in a virtual form until the project gets its foot on the ground. This novel challenge was one of the reasons that made me accept. In the past I always enjoyed working for something entirely new. While I was considering, I felt that the Research Director would not be alone, but instead would join the world-wide efforts. There are many colleagues to work with on this future endeavour. In order to produce something fruitful, the true cooperation of world-wide physicists is indispensable. Under such circumstances, if I can make any contribution for the future of electron-positron physics, it will be a tremendous pleasure.

-- Sakue Yamada