

Beam Dynamics Newsletter No. 39

Editorial

Going Global - A View from ICFA

Albrecht Wagner, Chair of ICFA

Mail: albrecht.wagner@desy.de

ICFA, the International Committee for Future Accelerators, facilitates international collaboration in the construction and use of accelerators for high-energy physics. It was created in 1976 by the International Union of Pure and Applied Physics. Its goals, as stated in 1985, are as follows:

- To promote international collaboration in all phases of the construction and exploitation of very high energy accelerators.
- To organize regularly world-inclusive meetings for the exchange of information on future plans for regional facilities and for the formulation of advice on joint studies and uses.
- To organize workshops for the study of problems related to super high-energy accelerator complexes and their international exploitation and to foster research and development of necessary technology.

ICFA is an organization in which discussions take place on the international aspects of particle physics, in particular the large accelerators that are at the heart of this field. It has no means of ensuring that any of its resolutions are carried out, but because of its broad international representation it can act as the "conscience" of the field and its recommendations can also influence national or regional activities.

Over the past years ICFA undertook three major activities, which correspond to the three goals of ICFA: *ICFA Meetings* (presently about twice a year), *ICFA Seminars* (every three years, focusing on Future Perspectives in High-Energy Physics), and *ICFA Panels* (on specific technical topics), such as the panel on 'Beam Dynamics', chaired presently by Weiren Chou of Fermilab, which has the mission to encourage and promote international collaboration on beam dynamics studies for present and future accelerators. This panel publishes the Newsletter you are reading.

During the past three years Jonathan Dorfan of SLAC has been leading ICFA. Under his chairmanship and ICFA's guidance major steps were taken to prepare the future of the field. While at CERN the Large Hadron Collider is taking shape, scientists are looking even further ahead. A worldwide consensus emerged that the next major project of the field would be an electron-positron linear collider. The LHC started as a European project and became more and more international, with major contributions from North America and Asia. It was clear from the beginning that due to its size, cost and complexity the linear collider, now called the International Linear Collider, ILC, would have to be realised as a truly global project. This led to unprecedented steps under the guidance of ICFA: a choice of technology in 2004, the formation of an ILC Steering Committee, the appointment of a Director of the Global Design Effort, Barry Barish of Caltech, and the start of the Global Design Effort itself. This is the first step towards a Reference Design and its cost, to be completed by the end of 2006. The Reference Design will then be the starting point for a Technical Design as well as for intensified political discussions among funding agencies in Asia, the Americas, and Europe.

As the new chair of ICFA I view this impressive track record of the past three years as guidance for the years to come, during which the field of particle physics faces both outstanding scientific opportunities and challenges. The LHC will provide fundamentally new insight into nature and its fundamental properties and principles. It will show us the way how the field might develop over the next decades. At the same time, during the next few years, experimental particle physics will undergo an alarming concentration: most colliders presently providing data will stop. This will happen in Asia, Europe and the United States. It is not for lack of ideas that this is occurring. It reflects the fact that most of the answers to the burning questions of today lie at the energy frontier and new expensive facilities are required to explore that frontier..

ICFA asks itself the question how to keep our field vital in times of such concentration and in view of the immense cost of new projects. One obvious way is a further strengthening of global collaboration. Can ICFA help guide this process and try to minimize unnecessary duplication of facilities? So far, ICFA has only begun to discuss these matters; it has had an initial discussion about the pros and cons of a global road map for the field. ICFA has decided to wait for the outcome of regional road map studies presently underway in Europe and the United States and then review the matter.

Another aspect of 'Going Global' discussed at the recent ICFA meeting, concerned the three regional accelerator conferences series APAC, EPAC and PAC. ICFA noted that each of these series is becoming effectively international, with almost one-half of the attendees from outside the region where the conference is organized and held, and similarly for the conference speakers. Each conference is the major world accelerator conference in its time period for the accelerators used in particle physics and other disciplines such as light sources and neutron sources.

In view of increasing international cooperation ICFA felt that it would be very desirable to have only one such major conference each year, which would be the international gathering that year for the accelerator field. ICFA endorsed the idea to move from regional PAC conferences to the concept of a yearly International Particle Accelerator Conference (IPAC), rotating around the world. ICFA has therefore asked the regional Organizing Committees to discuss the matter and make a proposal on how to implement this International Conference.

ICFA's effectiveness stems from "the sheer force of good will and good sense," Jonathan Dorfan said. Strengthening both will help us to tackle the huge challenges ahead of us.