

MODELS OF INTERNATIONAL PARTNERSHIP

Introduction and Context

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Physics Must Be The Guide

Physicists go where they can make important discoveries. Currently over half of US HEP scientists do their experiments at facilities outside the US. This will continue. For the next 10-30 years we have no other choice than to **partner** with our colleagues in Europe and Asia. If not we will lose our best scientific opportunities, our best experimenters and the opportunity to design new detectors and accelerators will be greatly diminished.

POLITICS

Since true international partnerships are the inevitable direction of “big science” we must not be afraid to confront this issue directly, even as this is a difficult political issue. High Energy Physics has a long history of international cooperation and the successful management of international facilities (notably CERN). We can create models for international partnership that could benefit the US and its international partners in many areas of science. The parameters of this model are unclear, partly since little serious thought and negotiation has been devoted to this issue.

The Benefits of Elementary Particle Physics

The discovery and understanding of the basic structure of physical reality, that stimulates technology both directly and indirectly and spearheads basic science, are largely independent of whether the physical facilities are on- or off- shore.

To this end we must educate our representatives in Congress, our fellow citizens, the business community and the scientific agencies.

ISSUES

- The U.S. not viewed by world as a good partner. Always had option to “do it ourselves.”
 - That is changing:
 - (a) The lack of resources;
 - (b) Others have legitimate things to offer that we do not. (CERN, Japan, China)

CERN: 1) US contributions to LHC accelerator upgrades
2) US contributions to LHC detector upgrades (ATLAS, CMS, and LHCb)
3) CERN contributions to the Fermilab-hosted neutrino program

ILC : ?

CHINA: CEPC-SppC
or “The Great Collider”

CAN WE HELP CHINA FASHION A STRUCTURE THAT WILL WORK FOR ALL?



We had better to learn to be
good partners or the world
will proceed without us.

Norm Augustine

HOW TO DO IT?

No Single Model Fits all.

We must learn from the successes (and failures) of the many models of international partnerships across the many fields of science.

Government must be the enabler.
Not the manager.

Norm Augustine

MODELS OF INTERNATIONAL PARTNERSHIP

LHC at CERN – Machine and Detectors

Speaker: Sergio Bertolucci

The Long Baseline Neutrino Facility -- Developing Model

Speaker Joseph Lykken

FRIB (Facility for Rare Isotope Beams)- -Diverse Partnership Models in Nuclear Physics

Speaker: Thomas Glasmacher

**ITER--Is it a model For International
Scientific Cooperation?**

Speaker: Robert Iotti

**Astrophysics and Cosmology:
International Partnerships**

Speaker: Roger Blandford

The LIGO Scientific Collaboration

Speaker: Gabriela Gonzalez

**PANEL
DISCUSSION**