



ORGANISATION EUROPÉENNE POUR LA RECHERCHE NUCLÉAIRE  
EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

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Geneva, 3rd December 2001

Object: Creation of a Collaboration for research and development towards a European Neutrino Factory Complex;  
request for nomination of two delegates from your Institute.

Dear Colleagues,

A neutrino factory based on a muon storage ring is the ultimate tool for studies of neutrino oscillations, including possibly leptonic CP violation. It is also the first step towards  $\mu^+\mu^-$  colliders. This interesting type of new accelerators has already been the object of conceptual studies, starting in the US and more recently in Europe and Japan. A Neutrino Factory Complex may be one of the possibilities for the future of CERN.

A first round of studies has shown that a neutrino factory could probably be built with accessible technologies, and with performances matching the requirements of an exciting physics programme. The cost evaluations are however quite high and the techniques envisaged have often never been applied in practice. Many appealing and partially explored options exist for several of the subsystems. It thus appears that a sizeable programme of R&D will be necessary.

The all-out priority of CERN is the completion of the LHC construction and the start of its physics programme. Pending the outcome of the internal and external reviews of CERN activities, which will be completed by March and June 2002 respectively, the resources that CERN will be able to devote in the forthcoming years to accelerator R&D in general and to Neutrino Factory studies in particular were significantly reduced.

In this context, it is nevertheless felt desirable that accelerator R & D effort be kept at a level allowing CERN an active but affordable role in a framework of enhanced collaboration among Laboratories.

It is proposed to develop a European Collaborative effort to undertake a programme of studies at the theoretical, engineering and experimental levels. The first step, as already discussed over the last year, is to assemble a Muon Concertation and Oversight Committee.

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The first task of this committee will be to review the status of R&D studies and plans and of the more or less formal collaborations that have already taken place, and to establish a first set of basic goals. It is proposed that two persons (one representative and one surrogate) of the major participating laboratories and funding agencies be nominated for a first meeting to be still convened as soon as possible. An organisational structure should be discussed and proposed to the relevant authorities.

Would your institute be interested in participating in such an effort? In this case we would like to ask you to nominate at your earliest convenience these two people so that we could find a date at the earliest possible time.

Looking forward for a fruitful collaboration,

With best regards,



Carlo Wyss  
Director of Accelerators

Cc: *Helmut Haseroth, Chair, CERN Neutrino Factory Working Group*

*Alain Blondel, Chair, steering group of the CERN and ECFA studies of a European Neutrino Factory Complex* ✓

L. Maiani, Director-General

Cc.: Ken Peach, RAL (only letters to J. Wood and I. Halliday)