

ICFA Report to C11

July 2014 to August 2015

J. Mnich (DESY)
August 18, 2015

ICFA Membership

August 2015:

(new since July 2014)

CERN Member States

H. Abramowicz

R. Heuer

J. Mnich (Chair)

USA

N. Lockyer

D. MacFarlane

I. Shipsey

Japan

T. Mori

M. Yamauchi

Russia

A. Bondar

S. Ivanov

Canada

M. Roney

China

Y. Wang

Other Countries

M. Cho

L. de Paula

V. Matveev

C11

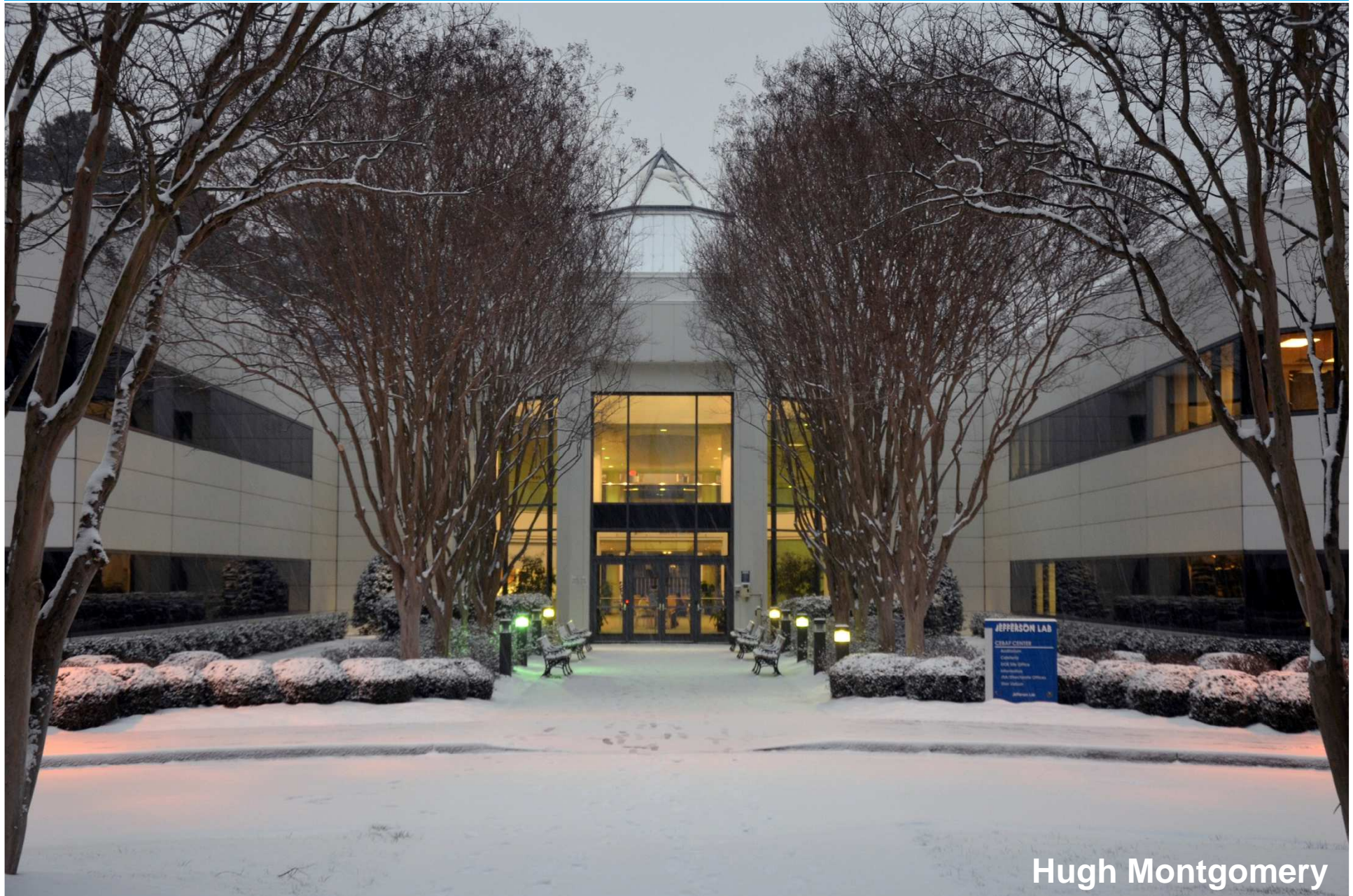
J. Fuster

Secretary: R. Rubinstein

Meetings

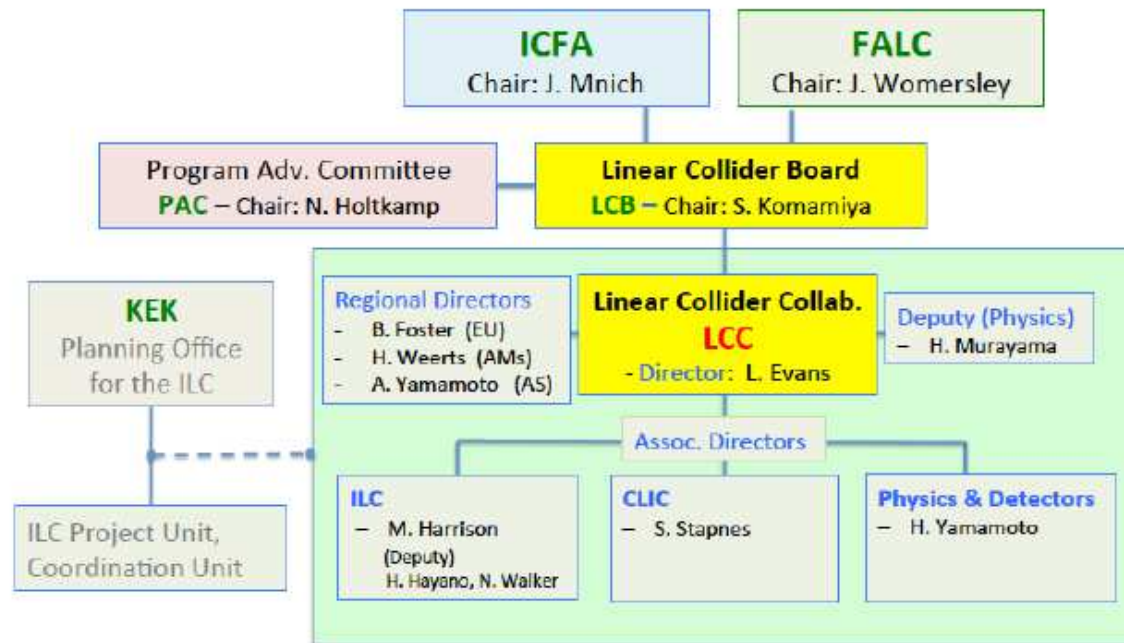
- > The 11th ICFA seminar took place 27-30 October 2014 in Beijing.
 - ICFA meeting on 27 October
 - FALC meeting on 30 October.
- > An ICFA meeting was held on 26/27 February 2015 at Jlab.
 - Many thanks to Hugh Montgomery & JLab staff for their hospitality!
 - The presence of the lab directors of the world's leading particle physics laboratories at this annual meeting allows a more extensive discussion of the status of particle physics.

JLab – an unexpectedly cold welcome ...



Hugh Montgomery

International Linear Collider

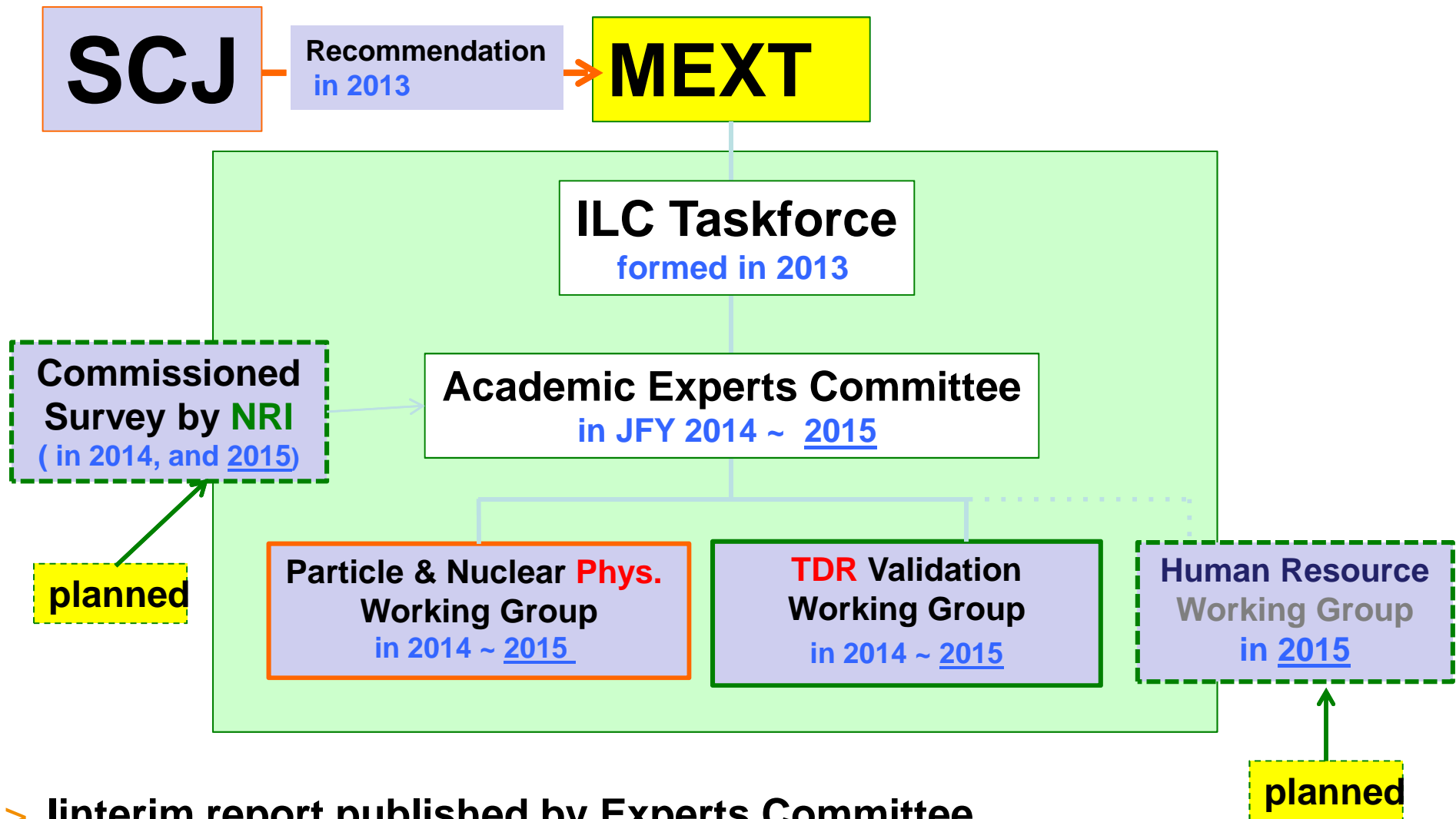


> **Note: CLIC is incorporated in this structure**

Figure 1. Structure of the Linear Collider Collaboration

- > **ICFA is closely following the progress of the ILC**
 - Monthly telephone meetings of the Linear Collider Board (LCB) established
 - For more details see report by Sachio on Friday
- > **Mandates of LCB and LCC are coming to an end**
 - Discussion on modification and prolongation tomorrow

ILC in Japan

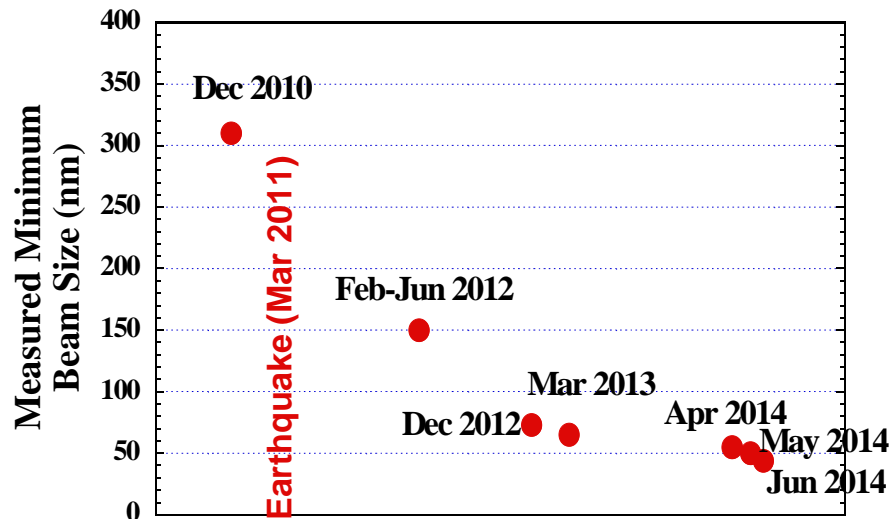


> Interim report published by Experts Committee

- LCB is preparing a reply, discussion tomorrow

ILC Technical Progress

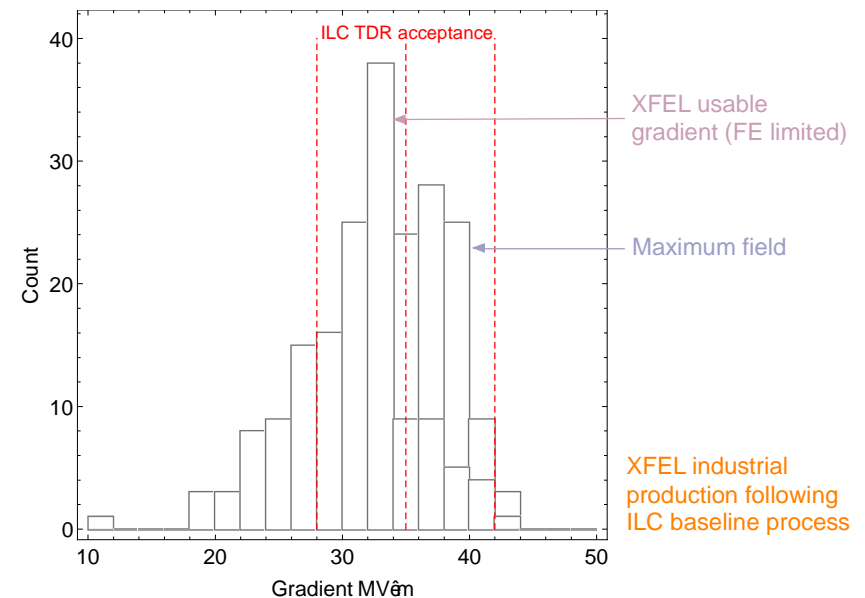
- > Progress report submitted by LCC (Lyn Evans et al.)
 - addresses ILC technical progress since TDR (site specific issues, project implementation plan,
- > Technical progress: 2 examples



Beam Size **44 nm** observed,
(Goal : **37 nm**, corresponding to **6 nm** at ILC)
Reproducible within hours!

> European XFEL:

- performance of cavities close to ILC specs



ICFA and Accelerator Science

- > Proposal for a new IUPAP Working Group on Accelerator Science
- > ICFA as an existing IUPAP Working Group involved in accelerator-related issues was asked for comments:
 - ICFA represents the major labs worldwide that carry out research at the energy frontier
 - ICFA has well-established Panels very relevant to many aspects, including generic, of accelerator R&D
 - ICFA would welcome a new IUPAP working group which covers a broader area of accelerators than ICFA itself does; the new group should have links to ICFA and duplication should be avoided
 - ICFA Panels can be a bridge to the new group.
- > An interim working group is being set up by IUPAP to propose a charge and initial membership of the new Working Group, and ICFA has been asked for nominations to the interim working group.

ICFA Panels

> Reports from ICFA panels

- Standing Committee on Interregional Connectivity
- Beam Dynamics Panel
- Instrumentation Innovation and Development Panel
- Advanced and Novel Accelerators Panel
- The Study Group on Data Preservation in High Energy Physics
- Neutrino Panel

> Proposed:

- Panel on Sustainable Accelerators and Colliders

Sustainable Accelerators and Colliders

> Panel proposed by A. Suzuki.

> Goals:

- Improve power efficiency of every accelerator component
- Have energy recovery from the accelerator, and re-use it
- Have a stand-alone system to provide all or part of the accelerator power needs

> Important topic, with connections i.e. to efforts at ESS, EUCARD energy efficiency network, etc.

- Region representatives looking into initiatives in this area, with the aim of producing mandate and goal for potential panel, if topic found to be appropriate for ICFA.

Future ICFA/LCB Meetings

- > 19 August 2015, Ljubljana (Lepton-Photon 2015)
- > 25/26 February 2016, KEK
- > Next ICFA seminar: Vancouver (2017)

Next ICFA Seminar

Vancouver, fall 2017



ICFA web page: <http://www.fnal.gov/directorate/icfa/>

Backup Slides

InterActions.org

- > Well-established organisation for peer-reviews of laboratory outreach activities.
 - FNAL in July 2014
 - DESY in March 2015
 - Soon: publication of best-practices document.
- > InterAction has significant web presence (4300 subscribers), with specific hubs for dark-matter and neutrinos (to come in 2015).
- > Committee to review InterAction's digital presence formed in 2014.

Committee on Interregional Connectivity

- > Committee monitors the world's networks and produces global view of HEP network use (covering by now 99% of world population).
- > Recognised need to bridge the digital divide! Compared to Europe, North America, East Asia and Australasia,
 - Russia, Latin America and Middle East are 5 years back in development;
 - Africa is 15 years behind!
 - Many developments – i.e. first 100G link to Latin America in 2015!
- > HEP's network use grows exponentially – this is crucial to LHC Run 2!
- > HEP is a driver of network developments and can help other fields of science.

Beam Dynamics Panel

- > Mission: to encourage and promote international collaboration on beam dynamics studies for present and future accelerators.
- > Different panel working groups
 - High-intensity hadron beams,
 - Future light sources,
 - High-lumi e+e- colliders.
 - Broader scope than only HEP!
- > Decision to NOT have a circular e+e- Higgs collider design study under the roof of ICFA.

Neutrino Panel

> Mandate:

- To promote international cooperation in the development of the accelerator-based neutrino-oscillation programme and to promote international collaboration in the development of a a neutrino factory as a future intense source of neutrinos for particle physics experiments.

> Initial report issued. Some major conclusions:

- LBNF and KyperK experiments are complementary – there are advantages in developing both!
- LBNF is making excellent progress in becoming an international facility.
- There is an emerging picture of LBNF and SBF in the Americas; HyperK in Asia, and the CERN Neutrino Platform in Europe.

> Second report to be issued by September 2015.

ICFA Web Page and Mandate

ICFA: International Committee for Future Accelerators

Web site: <http://www.fnal.gov/directorate/icfa/index.html>

Mandate:

- **promote international collaboration on very high energy accelerators**
- **organize regularly world-inclusive meetings for the exchange of information on future plans**
- **organize workshops for the study of problems related to super high-energy accelerators**