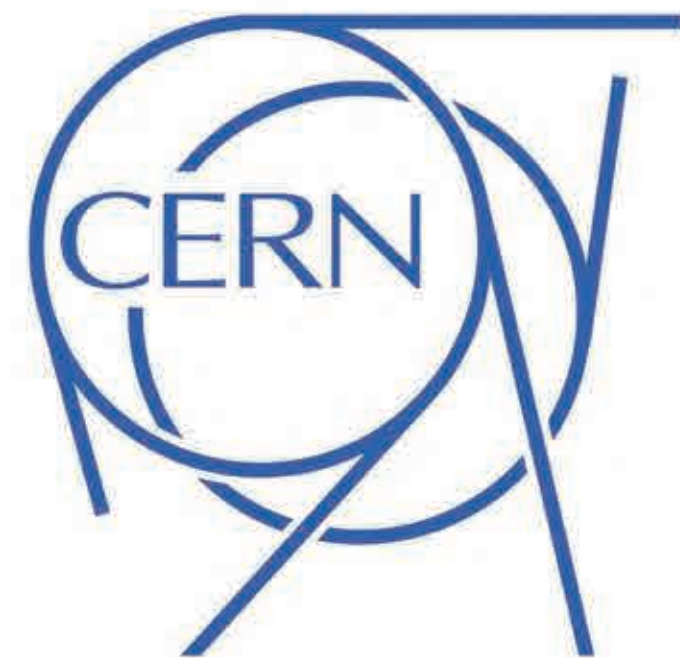




**NANYANG
TECHNOLOGICAL
UNIVERSITY**



Institute of Advanced Studies

1st IAS-CERN School on Particle Physics and Cosmology and Implications for Technology

9 to 31 January 2012, Nanyang Technological University, Singapore

**Two weeks of course lectures, supplemented
by workshops and special seminars by
distinguished physicists**

Physics Themes

**Frontiers in Cosmology - Dark Energy, Dark Matter and
Astroparticle Physics**

Cosmology (TH)

Astroparticle Physics (EP)

**Nature of the Neutrino - Dirac versus Majorana - Introduction
and Review**

Neutrino Physics (TH/EP)

**CP Violation and Matter versus Antimatter - Overview,
Baryogenesis - Status and Prospects**

CP Violation (TH/EP)

**Looking at the Standard Model and Beyond - Probing Higgs
Physics**

Standard Model (TH)

Beyond the Standard Model (TH)

Standard Model and Higgs Physics (EP)

Searches for Beyond the Standard Model Physics (EP)

Views of the Cosmos through Strings and Branes

String Theory (TH)

**Quark-Gluon Plasma Physics - The Universe before the
Nucleus**

Heavy-ion Physics (TH/EP)

Physics and Technology - Interdependence

Applications of Detectors

Applications of Accelerators

Grid Computing versus Cloud Computing

Registration

Registration will close on **30 November 2011**.

The registration fees (which include accommodations, meals and lectures materials) are USD 1000 per participant. Student grants (travel and waiver of registration fees) will be available. Financial support will be awarded to the selected students on a first-come-first-serve basis.

For more information, please visit the website -

<http://www.ntu.edu.sg/ias/ias-cern>

Scientific Objectives

The school is targeted at advanced graduate students and young postdocs and faculty covering frontier topics in particle physics and cosmology, as well as the latest technologies in accelerator and detector physics. The lectures are intended to enable interested researchers to join in the scientific exploration in the exciting fields. Participants coming to the school are assumed to possess basic knowledge in particle physics. The School aims to take in 50 students for the first session in 2012.

Jointly Organized by

Institute of Advanced Studies @ NTU Singapore

European Organization for Nuclear Research (CERN)

Directors of the School

Emmanuel TSESMELIS (CERN)

Kok Khoo PHUA (IAS, NTU, Singapore)

Ngee-Pong CHANG (City College of New York & NTU)

International Advisors

Peter GODDARD (Institute for Advanced Study, Princeton)

Gerard 't HOOFT (Utrecht University)

Makoto KOBAYASHI (High Energy Accelerator Research Organization) (*to be confirmed*)

Masatoshi KOSHIBA (University of Tokyo)

Toshihide MASKAWA (Kyoto University) (*to be confirmed*)

Yoichiro NAMBU (University of Chicago) (*to be confirmed*)

Martin PERL (Stanford Linear Accelerator Center)

Samuel TING (Massachusetts Institute of Technology)

Chen Ning YANG (Tsinghua University)

Supported by

Asia-Pacific Center for Theoretical Physics

Institute of High Energy Physics (Chinese Academy of Sciences)

Institute of Physics Singapore

Department of Physics, National Taiwan University

South East Asia Theoretical Physics Association

School of Physical and Mathematical Sciences, NTU

Contact Details

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