

SEMINARS SEMINAIRES

Vous pouvez aussi consulter

For information on these seminars, please see

<http://wwwas.cern.ch/Bulletin/Seminars/current.html>

Tuesday 13 July

NEUTRINO SUMMER

at 11.00 hrs – TH Conference Room, bldg 4

Neutrino masses and flavour mixings in non-Abelian flavour symmetry

by Morimitsu TANIMOTO / Ehime University,
Matsuyama, Japan

Mass spectra and flavour mixings of the quarks and leptons suggest the flavour symmetry. Recent observation of the large neutrino mixing at Super-Kamiokande makes an impact on searching for the flavour symmetry. Non-Abelian flavour symmetry predicts the almost degenerate neutrino masses. The S_3 symmetry can explain the large neutrino mixing, however, it is not a satisfactory symmetry because the prediction has ambiguity. The $O(3)$ flavour symmetry is discussed focusing on the result of the neutrino oscillation observed at Super-Kamiokande.

Tuesday 13 July

DUALITY WORKSHOP

at 14.00 hrs – TH Conference Room, bldg 4

The AdS/CFT correspondence and spectrum generating algebras

by Per BERGLUND / ITP, Santa Barbara

We list the spectrum generating algebras for string theory and M-theory compactified on various backgrounds of the form $AdS_{(d+1)} \times S^n$. We identify the representations of these algebras which make up the classical supergravity spectra and argue for the presence of these spectrum generating algebras in the classical string/M-theory. We also discuss the role of the spectrum generating algebras on the conformal field theory side.

Tuesday 13 July

IT INFORMATICS TUTORIAL

14.00-16.00 hrs – IT Auditorium, bld. 31/3-004

Introduction to Word 97

by Karen HOWIE / CERN-IT

Microsoft Word is one of the most popular word processors available for PCs. It is part of the MS Office 97 suite and actually available from any PC at CERN installing NICE. Word is full of powerful features which makes it ideal for most of the personal and workgroup needs.

I will first show the fundamental concepts behind the use of templates and the configuration of the default one (normal.dot). Then, I'll explain the basic text formatting facilities and go in detail into showing how to work with lists, tabs and tables. Also I'll show some integration aspects with Excel. Finally, I'll give some hints on how to manage the toolbars and the creation of HTML content.

The tutorial assumes attendants to have a basic working knowledge of the Windows 95 environment.

Information: <http://wwwinfo.cern.ch/support/training>

Organisers: M.Marquina and R.Ramos /IT-User Support

Tuesday 13 July

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium, bldg 500*

A Neutrino Factory based on muon storage rings

by Belen GAVELA / Univ. Autonoma of Madrid, Spain
& Robert PALMER / Brookhaven National Laboratory,
USA

The physics reach and accelerator requirements of the very intense, pure and flavour-rich neutrino beams emanating from a muon storage ring will be discussed. The speakers will summarise the progress of the NuFact'99 workshop (Lyon, 5-9 July), held by particle and accelerator physicists under the auspices of ECFA and ICFA.

Organiser: Jasper KIRKBY / EP Division

* Tea & coffee will be served at 16.00 hrs.

Wednesday 14 July

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room, bldg 4

Theoretical issues in calculating the relic abundance of dark matter particles

by Motohiko YOSHIMURA / Tohoku University

The Boltzmann equation approach to estimate the relic abundance of dark matter particles is critically re-examined, and a new approach based on a fully quantum mechanical treatment of WIMP and thermal environment interaction is developed. The outcoming result shows that when the heavy WIMP decays in a very non-relativistic speed, the abundance is given by a power of temperature in contrast to the usual Boltzmann suppressed exponential. This has a great impact on the SUSY dark matter parameters.

Wednesday 14 July

TECHNICAL PRESENTATION

from 14.00 to 16.30 hrs – bldg 112/R-018

Profibus PA / Commuwin II

by Frank THORN / ENDRESS+Hauser

Program:

- Profibus overview
- Profibus PA, techniques and applications
- Commuwin II, operating program for Profibus PA instruments
- Life demonstration with Profibus PA

Information: Manel Sanmarti/ LHC-ACR, 74058

Organiser: Claude Dehagay/ LHC-IAS, 74552

Thursday 15 July

SL SEMINAR

at 16.00 hrs* – SL Auditorium, bldg. 864

A Cost-Effective Design for a Neutrino Factory

by Eberhard KEIL / CERN

The design of a neutrino factory based on a muon storage ring draws upon several tried and tested technologies, upon existing design work for other accelerator projects, e.g. neutron spallation sources, but it also depends on the development of technical solutions to certain specific requirements. These include the efficient capture of muons in a large volume of phase space, some reduction in overall phase space volume by ionization cooling, fast acceleration to the desired energy to avoid unacceptable decay losses and storage in a decay ring optimised for its purpose as a neutrino source. There is no obvious single combination of machines to achieve this aim.

Here we present a scenario which relies to a large extent upon known technologies together with a relatively unambitious mix of new schemes. Some will be tried and tested during design and construction. Others during the early operational phase of the facility leading to a staged upgrade path – a well-proven strategy in the development of accelerator complexes.

Information:

<http://www.cern.ch/CERN/Divisions/SL/news/news.html>

Organiser: Werner Herr / SL Division

* Tea and coffee will be served at 15.30 hrs in front of the Auditorium

Thursday 15 July

CERN COLLOQUIUM

at 16.30 hrs – Auditorium, bldg 500*

Gamma Ray Bursts – A Puzzle Being Resolved

by Tsvi PIRAN / Racah Institute of Physics,
Hebrew Univ., Jerusalem

Gamma Ray Bursts (GRBs), short and intense bursts of Gamma-Rays, have puzzled astrophysicists since their accidental discovery in the seventies. BATSE, launched in 1991, has established the cosmological origin of GRBs and has shown that they involve energies much higher than previously expected, corresponding to the most powerful explosions known in the Universe. The fireball model, which has been developed during the last ten years, explains most of the observed features of GRBs. According to this model, GRBs are produced in internal collisions of ejected matter flowing at ultra-relativistic energy. This ultra-relativistic motion reaches Lorentz factors of order 100 or more, higher than seen elsewhere in the Universe. The GRB afterglow was discovered in 1997. It was predicted by this model and it takes place when this relativistic flow is slowed down by the surrounding material. This model was confirmed recently with the discovery last January of the predicted prompt optical emission from GRB 990123. Unfortunately this model does not describe uniquely the origin of GRBs and it leaves several options possible. In this talk I describe the relativistic fireball model and its implications to the possible sources of GRBs and to other phenomena, like Ultra High Energy Cosmic Rays and high energy neutrinos that might be associated with GRBs.

Organiser : Luigi Di Lella / EP Division

* Tea & coffee will be served at 16.00 hrs.

Friday 16 July

IT INFORMATICS TUTORIAL

14.00-16.00 hrs – IT Auditorium, bld. 31/3-004

Java Series: Basic Concepts in Object Oriented Programming

by Raul RAMOS POLLAN / CERN-IT

This tutorial presents a simple explanation of the fundamental ideas behind the so-called Object Oriented Paradigm. With a general approach, it will provide you with the basic understanding to be able to think OO and learn OO languages and techniques. Aspects like maintenance and reuse of code, quality, and large projects design and implementation will be discussed within the OO framework, and some of the reasons behind such benefits will be outlined. The talk will be general enough not to require any previous knowledge of any programming language but some insight in software development would be convenient. In the same way, the talk will give you the basics to learn any OO based methodology or language.

This is a repetition of the presentation given several times in the IT Informatics Tutorials.

Information: <http://wwwinfo.cern.ch/support/training>

Organisers: M.Marquina and R.Ramos /IT-User Support

Thursday 22 July

CERN COLLOQUIUM

at 16.30 hrs – Auditorium, bldg 500*

Genetics, genomes and cloning : The biotechnology revolution.

by Hamish S. SCOTT / Division of Medical Genetics,
University of Geneva Medical School

As this century draws to a close, spectacular advances in the fields of genomics and genetics are opening up dramatic new horizons for medicine. For much of the 20th century, genetic research has focused on rare diseases caused by mutations in a particular gene. However, more recently it has been realised that common genetic variations (polymorphisms), interacting with the environment, can influence an individual's susceptibility to diseases widely represented in our populations (e.g. mental illness and asthma), redefining the term "genetic disease". Officially starting in 1990, the Human Genome Project was a \$3-billion, 15-year program to find the estimated 80,000 human genes and determine the sequence of the 3 billion DNA building blocks that underlie all of human biology and its diversity. The resulting boom in genetic information and technologies, not only from humans, but from many other organisms, means that we now have new tools to understand and treat normal and disease states. This information is being used by academic researchers, and increasingly by pharmaceutical companies, to identify genes for genetic diseases, susceptibility to disease, to understand the ways different individuals react to different medications and create new drugs and therapies. Largely misunderstood, "cloning" is an attempt to use animals as "bioreactors" to produce therapeutic biological molecules such as blood clotting factors or organs for transplants. As with all "revolutions", the use of these technologies raises unprecedented questions of an ethical and legal nature. However, as we enter the new millennium, we can expect this biotechnology revolution to exert fundamental changes in the practice of medicine, affecting prevention, diagnosis, and therapy for important public health problems.

Organiser : Luigi Di Lella / EP Division

* Tea & coffee will be served at 16.00 hrs.



Information sur les cours, dates et places disponibles sur WWW:
Information about the courses, dates and places available on WWW :
<http://www.cern.ch/Training/>

SUMMER STUDENT LECTURES

<u>DATE</u>	<u>TIME</u>	<u>LECTURER</u>	<u>TITLE</u>
This week			
Mon. 12 July	09.15	E. Lillestøl	Particle Physics - for non-physics students - (4/4)
	10.15	R. Kleiss	Fundamental Concepts of Particle Physics (1/6)
	11.15	R. Cahn	Classic Experiments (2/2)
Tue. 13 July	09.15	R. Kleiss	Fundamental Concepts of Particle Physics (2/6)
	10.15	R. Kleiss	Fundamental Concepts of Particle Physics (3/6)
	11.15	J. Virdee	Particle Detectors (1/5)
Wed. 14 July	09.15	R. Kleiss	Fundamental Concepts of Particle Physics (4/6)
	10.15	J. Virdee	Particle Detectors (2/5)
	11.15		Discussion Sessions
Thu. 15 July	09.15	R. Kleiss	Fundamental Concepts of Particle Physics (5/6)
	10.15	J. Virdee	Particle Detectors (3/5)
	11.15	J. Virdee	Particle Detectors (4/5)
Fri. 16 July	09.15	R. Kleiss	Fundamental Concepts of Particle Physics (6/6)
	10.15	J. Virdee	Particle Detectors (5/5)
	11.15		Discussion Sessions
Next week			
Mon. 19 July	09.15	C. Quigg	Particle Physics: The Standard Model (1/8)
	10.15	P. Mato Vila	Trigger and Data Acquisition (1/3)
	11.15	P. Mato Vila	Trigger and Data Acquisition (2/3)
Tue. 20 July	09.15	C. Quigg	Particle Physics : The Standard Model (2/8)
	10.15	P. Mato Vila	Trigger and Data Acquisition (3/3)
	11.15	R. Jacobsen	From Raw Data to Physics Results (1/3)
Wed. 21 July	09.15	C. Quigg	Particle Physics : The Standard Model (3/8)
	10.15	R. Jacobsen	From Raw Data to Physics Results (2/3)
	11.15		Discussion Sessions
Thu. 22 July	09.15	C. Quigg	Particle Physics : The Standard Model (4/8)
	10.15	R. Jacobsen	From Raw Data to Physics Results (3/3)
	11.15	T. Cass	Computing at CERN (1/3)
Fri. 23 July	09.15	C. Quigg	Particle Physics : The Standard Model (5/8)
	10.15	T. Cass	Computing at CERN (2/3)
	11.15		Discussion Sessions

Further information can be obtained on the Web at the following URL:
<http://www.cern.ch/CERN/Divisions/PE/HRS/Recruitment/summ.html>

**FORMATION EN LANGUES
LANGUAGE TRAINING**

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FRENCH COURSE FOR BEGINNERS

If we have 12 people at the same level, we will open one French course for complete beginners (level 0) this summer.

Dates: 19 July - 27 August

Time: Monday-Wednesday-Thursday (09.00-12.00)

Duration: 54 hours

Price: 702 SF

If you are interested, please contact Andrée Fontbonne or Françoise Benz as soon as possible.

**INFORMATIONS
GENERALES
GENERAL INFORMATION**

To all members of the Institute of Physics
and other British members of the Personnel at CERN

The President of the Institute of Physics
Sir Gareth Roberts
invites you for a drink
on Friday 9 July at 17h00
in the Pas Perdus Corridor, bldg 61