

SEMINARS

SEMINAIRES

Vous pouvez aussi consulter

For information on these seminars, please see

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

Tuesday 9 March

IT INFORMATICS TUTORIAL

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

Techniques for efficient Web Searching

by Dariusz KOGUT / IT Division

Finding relevant information in the Internet has become difficult due to the explosive growth of the amount of documents on the Web.

We need to use specific search tools that explore our intranets and help us retrieve the information we are looking for, like a friendly librarian in a big library.

WWW documents must be well written and classified in order to be easily retrievable. In this tutorial we will explain:

- How does a Web Search engine work?
- How to search (the syntax)?
- How to create a web page that will be correctly indexed?
- Comparison of popular search engines
- The features of our engine (by Infoseek)
- Examples of search cases typical to the CERN Intranet

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

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

Tuesday* 9 March

CERN COLLOQUIUM

at 16.30 hrs – Auditorium, bldg 500**

The future of oil and hydrocarbon man

by Colin J. CAMPBELL / M.A., D. Phil., M. Inst.
Petroleum, FGS

Man appeared on the Planet about four million years ago, and by 1850 numbered about one billion. Then came Hydrocarbon Man. World population has since increased six-fold.

After the oil price shocks of the 1970s, people asked "Are we running out of oil?". A better question would have been "When will production peak?". It is not easy to answer this question because of the very poor database. Reserves and the many different hydrocarbon categories are poorly defined; reporting practices are ambiguous; revisions are not backdated; and there is no audit. Many vested interests have motives to obscure the true situation.

Nevertheless, it is possible to interpret public data to determine within limits the amount and dates of past discovery. It is also possible to extrapolate past discovery to indicate how much is yet to find and to make a rational model of future production.

Such a study points to a two-phased crisis. The first is another price shock, as the growing share of Middle East supply passes a certain threshold in the early years of the next century. The second marks the onset of long term decline about ten years later when more than half of the world's supply has to come from the Middle East and it too approaches its depletion midpoint.

Given the world's dependence on cheap oil-based energy, the peak of production will likely mark an historic discontinuity with colossal political, financial, and economic consequences. It marks the decline of Hydrocarbon Man who will be virtually extinct by the end of the 21st Century. Much can be done to ameliorate the tensions, but time is short and planning absent. Nevertheless, new recognition of the situation by Establishment institutions is a very promising beginning.

Organiser: Luigi DI LELLA / EP Division

* Please note unusual day.

** Tea & coffee will be served at 16.00 hrs.

Wednesday 10 March

TECHNICAL PRESENTATION

09.30-15.00 hrs – bldg 40/R-D10

Vacuum Components specially designed for High Energy Physics

by N. FEND / EVAC AG (CH)

Items on demonstration:

General Vacuum Components; Flanges and Fittings made of Stainless Steel, Aluminium and Glass, available for ISO-KF, ISO-K and CF

Elastomer/Metal Seals; made of Viton, PTFE, FEP, Al, Cu, Ni, etc...

Special Vacuum Components; with EVAC-designed tapered flanges for ISO-K and CF

Quick Release Chain Clamps; made of different materials to meet customers applications.

New! New! New!

All Aluminium UHV Components; Flanges, Fittings, Seals and Chain Clamps totally made of Aluminium (ISO-KF, ISO-K and CF) suitable for Cryogenics and High Energy Physics Applications.

Clamp Screws; Specially designed for ISO-K metal seals (Stainless, Al, antimagnetic) suitable for Accelerators.

Intermediate Adapter Seals; for direct couplings of ISO-KF to CF-flanges without adapters.

Special Chain Clamp; manually operated (tool less) quick release chain clamp designed for fast time saving couplings.

Language: French, English, German

Information: S. Shearer / SPL-PS/76360

Wednesday 10 March

LHCC COMPUTING BOARD [LCB]

Open Session

at 11.00 hrs – Auditorium, bldg 500

11.00 Collaboration Database (PIE) Final Report (R. Martens)

Closed Session

Salle B Conference Room, Main Building, bldg 60

Wednesday 10 March

THETA/PHI MEETINGS

at 11.00 hrs – Room 4/S-014

Lowering the Fundamental Scales of Physics via Large Extra Dimensions

by Keith DIENES / CERN-TH

I will give an elementary introduction to some of the recent ideas concerning lowering the fundamental scales of physics using large extra dimensions. I will summarize what has been accomplished thus far, and indicate some remaining outstanding questions. This will be an informal discussion (with audience participation) with the aim of involving both formal theorists (theta) and phenomenologists (phi).

Wednesday 10 March

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room, bldg 4

Neutrino mass and supersymmetric unification

by Goran SENJANOVIC / ICTP, Trieste

I discuss the connection between supersymmetry and neutrino mass in the context of the see-saw mechanism. It is shown that under natural assumptions see-saw helps determine the structure of the supersymmetric standard model: it implies R-parity conservation at all energies. I discuss the violation of the survival principle in supersymmetry and show how it may lead to an intermediate see-saw scale consistent with solar and atmospheric neutrino data. In SO(10) GUT this affects the predictions for proton decay: the old mode into a positron and a pion may be the dominant one.

Thursday 11 March

THURSDAY SEMINAR

at 14.00 hrs – TH Conference Room, bldg 4

Effects of Extra Space-time Dimensions on the Fermi Constant

by M. YAMAGUCHI / Tohoku University

I would like to discuss effects of Kaluza-Klein excitations associated with TeV scale compactifications to the Fermi constant. I show that the current precision measurement of the Fermi constant puts strong constraints on the compactification radius.

Thursday 11 March

LHC PROJECT SEMINAR

at 14.15 hrs – PS Auditorium*, bldg 6/2-024

Quench Protection at HERA

by Karl-Hubert MESS / DESY

The operation of the 916 GeV proton accelerator and storage ring HERA started almost nine years ago. During this time the quench protection has worked reliably and satisfactorily. The underlying principles of the HERA quench protection system will be explained and some technical solutions will be addressed. Operational experience in the past has led to the addition of a distributed beam loss monitoring system that was able to reduce the number of quenches considerably by ejecting the beam into the dump instead of the magnets. Likewise a transient recording system was implemented to improve the diagnostic tools.

Operational experience with the systems and their actual performance will be discussed.

** Please note the unusual place!*

Friday 12 March

IT INFORMATICS TUTORIAL

10.00-12.00 hrs – IT Auditorium, bldg 31/3-004

An Overview of the ESA Software Engineering Standards

by Fernando NUNEZ-BENITO / IT Division

The tutorial is a brief introduction to Software Engineering Standards (PSS-05) of the European Space Agency (ESA). I will provide an overview of the software life cycle, the phases a software must follow and what must be done in each phase of a software project, in order to develop quality software, either in house or by industry. From the practical point of view it will describe the methods and tools that can be used in each phase.

It will cover user requirements, software requirements, architectural design, detailed design and production, transfer, operations and maintenance phases, and will describe functions of Software project management, software configuration management, Software verification and validation and software quality assurance.

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

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

Friday 12 March

COSMOLOGY WORKSHOP

at 14.00 hrs – TH Conference Room, bldg 4

Can unstable relics save pure CDM model?

by M. PELOSO / SISSA, Trieste

The standard CDM model fails to describe the observed spectrum of fluctuations since it gives too much power at small scales. Among other possible improvements, an agreement with observations can be achieved with the addition of a late decaying particle, through the injection of non-thermal radiation and the consequent increase of the horizon length at the equivalence time. We will analyze the possibility of implementing this idea in extensions of the electroweak standard model, with particular attention to supersymmetry with and without R parity. After considering cosmological and astrophysical bounds, we will show that only few candidate models survive as viable solutions.

Monday 15 March

CERN EP SEMINAR

at 16.30 hrs – Auditorium, bldg 500*

Searching for new physics at the Fermilab Tevatron

by John WOMERSLEY / Fermi National Accelerator Laboratory

The Tevatron collider at Fermilab is the world's highest energy particle accelerator, colliding protons and antiprotons at a combined energy of 2 TeV. The accelerator will resume running in spring 2000 for "Run II" which will provide a data sample twenty times larger than that so far accumulated. This will be a real opportunity to observe physics beyond the Standard Model. I will describe how

we are upgrading the D0 detector for Run II, outline some of our results on searches for supersymmetry, and how these will be extended in the next run. I will also describe prospects for observing Standard Model and supersymmetric Higgs particles at the Tevatron.
Organiser : Fabiola Gianotti / EP Division

* Tea & coffee will be served at 16.00 hrs.

Tuesday 16 March

SEMINAR IN HONOUR OF PROF. C. RUBBIA
ON THE OCCASION OF HIS 65TH BIRTHDAY
at 14.30 hrs – Auditorium, bldg 500*

Programme

Welcome by G. Charpak
Kaon Physics and CP Violation
by V. Fitch (University of Princeton)
Neutrino Physics
by K. Winter (CERN)
Vector Bosons and Standard Model (theory)
by G. 't Hooft (University of Utrecht)
Vector Boson Discovery (experiments)
by A. Astbury (TRIUMF)
A Nuclear Physicist looks at Accelerator Transmutation Technologies
by A. Kerman (MIT)

J..

Address by C. Rubbia

Closing remarks by L. Maiani, Director-General of CERN.

* A reception, offered by Prof. L. Maiani, Restaurant No. 1, will follow.

Organisers: G. Charpak, G. Goggi, K. Hübner

Closed-circuit television transmission of the seminar will be available in the **LHC Auditorium (bldg 30)**, the **PS Auditorium (bldg 6)** and the **SL Auditorium (Prévessin, bldg 864)**.

Wednesday 17 March

PS SEMINAR

at 11.00 hrs – PS Auditorium, bldg 6/2-024

Developments in high intensity linacs

by A. PISENT / INFN Laboratori Nazionali di Legnaro, Padova, Italy

High intensity proton Linacs with beam power up to 100 MW are under study in various laboratories, mainly as drivers of subcritical reactor for nuclear wastes transmutation or for energy production using the Energy Amplifier scheme. Applications to fundamental physics cover a broad spectrum: production of radioactive ion beams, increased beam brightness in LHC, neutrino factories and muon colliders. INFN is studying a proton linac (1 GeV 30 mA CW) based on superconducting 352 MHz elliptical cavities above 100 MeV. Design choices, prototyping program and some open problems will be discussed.

Organiser: B. Autin/PS

EDUCATION SERVICES EDUCATIFS



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<http://www.cern.ch/Training/>

ENSEIGNEMENT ACADEMIQUE ACADEMIC TRAINING

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ACADEMIC TRAINING LECTURE SERIES ON PHYSICS AT ISOLDE

8 & 10 March

11.00 to 12.00 hrs

8 March: Auditorium, bldg 500 &

10 March: TH Auditorium, bldg 4

by G. BOLLEN / CERN-EP

ISOLDE – an Overview

ISOLDE is an on-line mass separator facility for the production of radioactive ion beams. The large number of different beams of isotopes available with high intensity has attracted a rich experimental programme. The research activities reach from nuclear physics, astrophysics and

atomic physics, to bio-medicine and solid state physics. The lecture will give an overview over the facility and its features, summarize the fields of research and present perspectives.

Atomic Physics Experiments at ISOLDE

The employment of atomic physics techniques has proven to be a very successful approach for the investigation of atomic and nuclear properties of radioactive isotopes. Laser spectroscopy is used at ISOLDE to study electromagnetic moments and charge radii of exotic nuclei. Their atomic mass, one of the most fundamental piece of information to be obtained about a nucleus, is determined with high precision by means of transmission spectrometers and ion traps.