

## SEMINARS SEMINAIRES

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### Monday\* 18 February

#### CERN COMPUTER COLLOQUIUM

at 16.30 hrs – Auditorium\*\*

#### Interactive Design and Simulation – The Next Computer Revolution

by Abe PELED / IBM, Yorktown Heights

*Over the next decade, we can expect interactive design, analysis and simulation to transform and completely revolutionize the way scientists and engineers work. The dramatic increase in computing power that will be available to individuals, coupled with natural means of interaction involving all our senses – visual, auditory and tactile – promises to produce the most fundamental changes in the nature of computing, making the computer an extension and amplifier of human intelligence.*

Abe Peled obtained his PhD in Electrical Engineering from Princeton University, and joined IBM Research in 1974. Since 1985 he has been Research Division Vice President and Director of Computer Sciences with responsibility for the overall Computer Sciences strategy for IBM's Research Division.

\* Please note unusual day and time

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

### Tuesday 19 February

#### LEP EXPERIMENTS COMMITTEE

##### Open session

at 09.00 hrs – Auditorium

- 09.00 – 09.15 Opening Remarks by the Director-General
- 09.15 – 10.30 Report on the LEP Performance Workshop (Speakers to be announced later)
- 10.30 – 10.50 Status Report on the LEP Energy Calibration (J. Panman)
- 10.50 – 11.15 Coffee Break

##### Status Reports on the Experiments

- 11.15 – 11.45 OPAL
- 11.45 – 12.15 L3
- 12.15 – 12.45 ALEPH
- 12.45 – 13.15 DELPHI

##### Closed session

Conference Room, 6th Floor, Administration Building

### Tuesday 19 February

#### CN PRESENTATION

at 10.30 hrs – CN Auditorium

bldg 31/3-005

#### A dual processor MC68040 VMEbus module

by Joël BOVIER / Director, Research & Development, Creative Electronic Systems, Geneva

*The CES FIC8234 VMEbus CPU module is equipped with two MC68040s: the latest addition to Motorola's 68000 family of CISC microprocessors. The concept of two processors tightly coupled on the same native bus, allows the global performance of applications to be boosted in one of several ways. For instance:*

- by assigning tasks to each processor
- by dedicating one processor to I/O and the other to computation
- by dedicating one processor to a UNIX-like operating system and the other to a fast real-time kernel.

*The philosophy behind the dual-processor architecture and its performance, as well as details of the implementation (64 bit VMEbus block transfers, hardware block mover, fully programmable interrupt mechanism, inter-processor communication facilities, and support for features specific to the 68040), will be described. In addition, the speaker will describe other related developments including VICbus (inter-crate cable bus) connections and RISC processor-based modules.*

Language: English / français

Organizer: C. Parkman / CN

### Tuesday 19 February

#### CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium\*

#### QCD coherence – as seen through the eyes of LEP and hadronic colliders

by Valery KHOZE / CERN– TH & Leningrad Institute for Nuclear Physics

*The main aim of the talk is to demonstrate the results of the analytical perturbative approach to jet physics obtained in the last decade by the QCD-CLIC pool. The emphasis is on the colour-coherence phenomena, reflecting the collective wave nature of multihadron production. The various aspects of our understanding of these effects in the context of LEP are discussed. A shopping list of future experimental studies of the collective QCD phenomena at LEP and hadronic colliders is presented. One of the prospects is to try to use the spectacular coherence effects, as a valuable tool, to help in the extraction and study of the signals for New Physics.*

\* Tea and coffee will be served at 16.00 hrs.

## Wednesday 20 February

### THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

#### Fractional Quantum Hall Effect

by J. FRÖHLICH/ ETH, Zurich

*We shall discuss large-distance physics of the fractional quantum Hall effect. It turns out that the large-distance physics of an incompressible Hall fluid is described by topological Chern-Simons theory. The gauge anomalies of the Chern-Simons theory are cancelled by those of chiral edge currents coupled to the electromagnetic field.*

## Wednesday 20 February

### CN SEMINAR

at 15.00 hrs – Council Chamber\*

#### HOOPS Graphic system

by H.R. KOTTMANN & J. SINGH / DWIM Software, Basel

*The presentation of HOOPS (Hierarchical Object Oriented Picture System) will be focused on Portability, Productivity and Performance of today 2D/3D Graphic Systems. First there will be an introduction to HOOPS, its use and supported workstations and then a demonstration of Application-programming Examples with HOOPS code. The speakers will answer questions related to the above discussion as well as provide detailed information when necessary.*

CN Organizer : N. Cremel

\* Please note unusual time & location

## Jeudi 21 février

### PRESENTATION TECHNIQUE

de 10.00 à 16.00 h – salle 17/1-007

*Rank Xerox SA (USA/F/CH) propose en démonstration les modèles Xerox tc 7021, tc 7033 et tc 3010 utilisant le même papier normal que celui des photocopieurs. Ils répondent à toutes les applications, d'une utilisation modérée à une utilisation intensive en passant par des solutions connectables sur différents systèmes informatiques. Il sera présenté également un système de décompte individuel des coûts de communication, adapté à ces équipements.*

Langue: français

Renseignements : M. Diraison / FI / 4585

## Friday 22 February

### MEETING ON PARTICLE PHYSICS PHENOMENOLOGY

#### High Energy Elastic Hadron Scattering in Coulomb and hadronic regions

at 14.00 hrs – TH Conference Room

by V. KUNDRAT / Prague

*The validity of assumptions on which the currently-used West and Yennie interference formula describing the high*

*energy elastic scattering of charged hadrons at small momentum transfers is based, is discussed. It is shown that a correct description of this scattering requires a more detailed interference formula involving the influence of the hadronic amplitude in the whole measurable momentum transfer region. The new method was made use of in the analysis of the pp elastic scattering data at ISR energy, 53 GeV, and precise values of  $\sigma_{tot}$ , B and  $\rho$  were established, differing from those derived earlier. The peripheral picture of elastic pp scattering seems to be also preferred.*

## Lundi 25 février

### SEMINAIRE AC

à 11.00 h – Amphithéâtre SL

Site de Prévessin, bât. 864, 1er étage

#### Les supraconducteurs pour les aimants LHC – Etat de l'art et de l'industrialisation

par Luc OBERLI / CERN-AT

*Avec les marchés importants et réguliers des aimants pour l'imagerie à résonance magnétique et des aimants pour la physique, les conducteurs supraconducteurs à base d'alliages Nb-Ti ont atteint un stade industriel. Le NbTi représente 95% du marché des matériaux supraconducteurs utilisés industriellement; la dernière part de marché revient aux conducteurs à base de matériaux A15, avec en tête le Nb<sub>3</sub>Sn. L'alliage NbTi est largement utilisé pour les applications demandant des champs magnétiques allant jusqu'à 7 teslas à 4,2 K. En réduisant la température à 1,8 K, les conducteurs à base d'alliage NbTi peuvent produire des champs magnétiques de 10 teslas, champ envisagé pour les aimants LHC. Après avoir exposé les objectifs pour les développements des câbles supraconducteurs et les différentes étapes de fabrication d'un conducteur supraconducteur, les principaux résultats du programme de développement lancé par le CERN dans l'industrie européenne seront présentés.*

## Monday 25 February

### TECHNICAL PRESENTATION

from 14.30 to 17.00 hrs – CN Auditorium

bldg 31, room 3-005

*Technical presentation by LeCroy (CH) and National Instruments (CH/USA)*

*Topic: Interfacing LeCroy instruments (CAMAC modules, Arbitrary function generators (AFG), and Digital oscilloscopes) to the Macintosh computer series using National Instrument's 'Labview' program.*

*Audience: The seminar is intended to anyone using a Macintosh computer who is interested in interfacing his PC measurement instruments via GPIB and wishes to process or generate data.*

*Presentation: The presentation will introduce the Labview software and discuss GPIB protocol aspects. Demonstrations will be done using LeCroy's latest digital oscilloscopes, models 9410, 9414, 9430, as well as CAMAC modules and 9109 AFG. The presentation will emphasize practical examples.*

Information: M. Diraison / FI-A / 4585

## Tuesday 26 February

PRIAM AND THE COORDINATION GROUP  
FOR STANDARD INTERCONNECTS (CSI)

at 09.00 hrs – CN Auditorium,  
bldg 31 / 3-005

**A meeting on recent developments in buses &  
interconnects for HEP**

Information: Hans Müller /ECP /3533 /  
hmuller@vxcern

## Mardi 26 février

PRESENTATION CN

de 14.00 à 17.00 h – salle de conférence 1  
bât. 600 (à côté de CN)

**Auto-apprentissage de UNIX et C**  
by A. WOLFF / GO S.A.

*La compagnie GO S.A. présentera ses cours de formation  
autonome sur divers aspects de UNIX et de la programmation  
en C.*

Langue : français

Organisateur : A. Silverman / CN

## Tuesday 26 February

PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium

**Precision Measurements at LEP in comparison  
with Grand Unified Theories**

by W. de BOER / University of Karlsruhe

## Wednesday 27 February

CN SEMINAR

at 16.00 hours – CN Auditorium  
building 31/3-005

**A Network-Based Security Auditor**  
by Bjorn Blindheim / CN-DI

## Jeudi 28 février

PRESENTATION TECHNIQUE

de 09.00 à 12.00 h et de 13.30 à 16.00 h  
bât. 17, salle 1-007

*GV Ch. Gabus S.A. (CH) est spécialisé dans la production de  
composants pour le vide (y compris des cavités), la cryogénie  
et la chimie.*

Langue : français

Renseignements : M. Diraison / FI / 4585

## Thursday 28 February

PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium

**Status of the 17 keV neutrino**

by A. HIME / Oxford University

# TRAINING AND EDUCATION ENSEIGNEMENT

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## ENSEIGNEMENT GENERAL

Tél. 5811 ou 2844 (le matin)

## Jeudi 21 février

de 13.00 à 13.30 h – Amphithéâtre

**Science pour tous**  
par R. Carreras

## ACADEMIC TRAINING

Tel. 2844-3674

## 18, 25 February

## 4, 11 March

LECTURES FOR POSTGRADUATE STUDENTS

11.00 to 12.00 hrs – Auditorium

**Introduction to accelerators**

by M. WEISS / CERN-PS

*Lecture of 18 February : Introduction to linear  
accelerators*