

fortement diminué en 1987 grâce aux mesures décidées à cet égard par le Conseil du CERN. Il a pris note de la position de l'actuaire sur la question de l'équilibre à long terme de la Caisse. Selon l'actuaire, la cause principale du déficit est le paramètre économique, qui postule un revenu des placements peu réaliste et devrait être modifié, comme le propose d'ailleurs le Comité d'évaluation du CERN. Dès lors, un relèvement des cotisations est à envisager pour éviter la recrudescence de ce déficit.

Le Comité des Pensions a revu et approuvé le texte d'une communication préparée à l'intention du Directeur général au sujet du statut futur de la Caisse.

Le responsable du portefeuille immobilier a présenté un projet d'investissement pour lequel il a obtenu l'aval des membres du Comité de poursuivre les négociations.

L'Administrateur a donné la liste des pensions nouvellement attribuées et a annoncé, avec regret, le décès de M. Lothar Hoffmann, pensionné.

SUMMARY OF THE 32nd MEETING OF THE ADVISORY COMMITTEE OF CERN USERS 14 april 1988

Review Committee

The Director-General presented the present status of the follow-up of the CRC report. ACCU discussed implications for the users and confirmed its conclusions made at the previous meeting.

User Office

ACCU supported the proposed mandate and structure of a User Office which should start some activities in the near future.

Office space

ACCU appreciated the decisions taken by CERN management to increase the office space for users, but expressed disappointment on the follow-up so far.

Performance of accelerators

ACCU expressed its satisfaction with the excellent accelerator performance during start-up this year.

Staff Council

ACCU agreed to support the Staff Association's efforts to have the users represented on the Staff Council.

Housing

ACCU requested CERN management to consider means to increase both short and long-term accommodation available to users.

Last meeting

The Director-General thanked the members of ACCU for the work carried out, also in helping to define the mandate and procedures of the new users committee.

deficit fell sharply in 1987 as a result of the appropriate measures taken by the CERN Council. The actuary's attitude to the long-term balance of the Fund was noted. It was his opinion that the main reason for the deficit was the economic parameter, which assumed an unrealistic yield on investments and should be altered, as proposed by the CERN Review Committee. This would mean a rise in the level of contributions to prevent a renewed increase in the deficit.

The Pensions Board reviewed and approved the text of a message to the Director-General on the Fund's future status.

The real-estate portfolio manager submitted an investment project and obtained the agreement of the members of the Board for further negotiations.

The Administrator gave the list of recently awarded pensions and announced, with regret, the demise of Lothar Hoffmann, one of the pensioners.

SEMINARS SEMINAIRES

Lundi 9 mai

PRESENTATION TECHNIQUE

de 09.00 à 13.00 h – Parking PTT, près du bât. 63

Vögtlin Instruments AG (CH), représentant J. Heinrichs Messgeräte GmbH (D), propose en démonstration sa gamme d'appareils de mesure de débit, de niveau et de densité : débitmètres à flotteur, cône en verre, métallique ou battant – débitmètres inductifs à courant pulsé – débitmètres à ultrasons pour liquide : principe de la mesure du temps de propagation ou à effet Doppler – compteurs volumétriques : compteurs à disque oscillant, à turbine et à piston rotatif – débitmètre massique : principe de transmission de chaleur, principe Coriolis – surveillance d'écoulement : principe calorimétrique – appareils de mesure de niveau à flotteur ou selon le principe d'Archimède – pression : système à dilatation d'une membrane silicium – densimètre : système à plongeur – vannes : manuelles/électriques/pneumatiques.

Langues : allemand, français, anglais

Renseignements : M. Diraison / FI / 4585

Monday 9 May

EF SEMINAR

at 11.00 hrs – EF Conference Room
bldg 13, 2-005

Cryogenic detectors

by David CALDWELL / University of
California, Santa Barbara & Tapio NIINIKOSKI /
CERN-EP

Particle detectors operating at very low temperatures in principle can be sensitive to very small energy deposits and have unprecedented energy resolution. These

characteristics should make accessible previously impossible measurements in many areas, including X-ray astronomy, coherent scattering of neutrinos, double beta decay, dark matter searches, and high resolution vertex detection with potentially high tolerance against radiation damage. We shall describe the principles and methods of the thermal calorimetric detectors and the superconducting tunnel junction devices. The present results and future expectations are reviewed, and some of the currently open problems are exposed. The R&D programme of the new EP-PSI (former SIN) collaboration will be discussed. Detection devices based on large-scale coherence and frequency-domain response are also briefly mentioned.

Monday 9 May

EP SEMINAR

at 16.30 hrs – Auditorium

Magnetic monopoles and non-superconducting induced detectors

by INCANDELA / CERN – Formerly of the University of Chicago

Mardi 10 mai

PRESENTATION TECHNIQUE

de 08.30 à 12.30 h (séances de 30 minutes :

08.30 h, 09.00 h, 09.30 h, etc.)

Parking PTT, près du bât. 63

SattControl AG (CH), de la division Automation du groupe Alfa Laval (S), propose en démonstration son programme 'Automatisation de processus techniques et industriels' : automates programmables (programmable logic controllers) – régulateurs intelligents (AUTOTUNE ADAPTIFS) – systèmes de pilotage de processus à écrans en couleur (process supervision and management by color monitor). Applications : processus chimiques et thermiques, distribution d'énergie, surveillance de grandes installations, de bâtiments (building automation).

Langues : anglais, français (allemand sur demande)

Renseignements : M. Diraison / FI / 4585

Tuesday 10 May

MEETING ON FASTBUS DEVELOPMENTS

at 09.00 hrs – Theory Conference Room

1. *Interfacing between FASTBUS and the DTR and RMH systems*
by J. Traxler / HEPHY, Vienna
2. *Aflash TDC trigger system for the outer detector of DELPHI*
by J.F. Genat / LPNHE/IN2P3, Paris
3. *Computer based production test facilities for the ALEPH TPD system*
by B. Löfstedt / CERN
4. *The DELPHI contiguity processor*
by G. Darbo / INFN, Genova
5. A.O.B.

Tuesday 10 May

SEMINAR IN THE FRAME OF LAA

at 11.00 hrs – EF Conference Room

bldg. 13, 2-005

The ASP : a cost-effective parallel microcomputer

by R.M. LEA / Aspex Microsystem Ltd,
Brunel University, Uxbridge, England

The Associative String Processor (ASP) is a novel fault-tolerant parallel processing microelectronic architecture, which provides a highly versatile building-block for the cost-effective implementation of high-performance and high-reliability fifth-generation computer systems. Based on a fully programmable and reconfigurable homogeneous computational structure developed at Brunel University, the ASP architecture offers particularly flexible support for structured data processing over a wide range of both numerical and non-numerical information processing applications. Moreover, the ASP is designed to exploit the opportunities presented by the latest advances in the VLSI-to-ULSI-to-WSI technological trend, while remaining technology-independent; such that the ASP can benefit from the inevitable improvement in microelectronics technology without architectural modification. The seminar will discuss the architectural philosophy, structural organisation, operational principles and VLSI/ULSI/WSI implementation of the ASP and indicate its cost-performance potential.

Wednesday 11 May / Mercredi 11 mai

PRESENTATION

at 10.00 hrs – DD Auditorium (31, 3-005)

Translation by computer (Systran) and terminological data bank (Eurodicautom)

Traduction par ordinateur (Systran) et Banque de données terminologiques (Eurodicautom)

by/par Ian PIGOTT / CEC/CCE

Introduction and live demonstration followed by discussions. Examples of unrevised English/French, English/Italian and French/English computer translation will be distributed; other language combinations exist in different stages of development. If sufficient interest is shown, it would be possible to install on-line access to the system via office terminals and telecommunications. It is already planned to provide access to the Eurodicautom term bank.

Introduction du sujet, puis démonstration 'en direct', suivie de discussions. Des exemples de traductions par ordinateur, non révisées, anglais-français, anglais-italien et français-anglais seront distribués. D'autres combinaisons linguistiques existent à différents stades de développement. Si l'intérêt suscité est suffisant, il serait possible d'installer un accès en ligne au système par l'intermédiaire des terminaux de bureaux et des télécommunications. Il est déjà prévu de permettre l'accès à la banque terminologique Eurodicautom.

**SYMPOSIUM ON THE UNITY AND INTERNATIONALISM
OF THE SCIENCES AND THE HUMANITIES**

CERN, Main Auditorium, 9th – 10th May, 1988

Sponsored by

**CERN SCIENCE AND SOCIETY SEMINAR
and
ISTITUTO ITALIANO PER GLI STUDI FILOSOFICI**

Les orateurs traiteront, du point de vue de leur discipline, le sujet central du Symposium, *l'unité profonde de la recherche de la connaissance* et ses conséquences: les dimensions internationales que cette unité confère à toute entreprise intellectuelle, et les relations de compréhension et de coopération à l'échelle mondiale qu'elle aide à créer.

Les discours seront traduits simultanément en français.

L'exposition '*Federico Cesi et la fondation de l'Accademia dei Lincei (en 1603)*', organisée par l'Accademia Nazionale dei Lincei et l'Istituto Italiano per gli Studi Filosofici, sera inaugurée à la fin du premier jour. L'exposition restera ouverte jusqu'au 22 mai 1988.

The speakers will address from the viewpoint of their discipline the central theme of the Symposium, the *basic unity of the quest for knowledge*, and its consequences: the international dimensions which it gives to all intellectual endeavour, the worldwide relationships of understanding and co-operation which it helps create.

The talks will be translated simultaneously into English.

The exhibition '*Federico Cesi and the Foundation of the Academy of the Lincei (in 1603)*', organized by the Accademia Nazionale dei Lincei and the Istituto Italiano per gli Studi Filosofici, will be inaugurated at the end of the first afternoon. The exhibition will remain open till 22 May 1988.

**Monday 9 May
at 14.15 hrs – Auditorium**

(Chairman: Edoardo Amaldi, Vice-President of the Accademia Nazionale dei Lincei)

- **Giovanni Pugliese Carratelli**, Director of the Istituto Italiano per gli Studi Filosofici, Naples
"Introduction"
- **Robert R. Wilson**, Director Emeritus of FERMILAB, Chicago
"Humanness of Physics and Unity with the Humanities"
- **Léon Van Hove**, Former Director-General of CERN
"From Cosmology to Particle Physics, or The Unity of Physical Laws from Largest to Smallest Scales"
- **Giuseppe Montalenti**, Former President of the Accademia Nazionale dei Lincei
"Federico Cesi and the Academy of the Lincei"

18.00h: Opening of the Exhibition, in Co-operation with the CERN Staff Association
(1st Floor, Main Building, CERN)

**Tuesday 10 May
at 14.15 hrs – Auditorium**

(Chairman: Olivier Reverdin, Former President of the Fonds national Suisse de la Recherche Scientifique (FNSRS))

- **Remo Bodei**, University of Pisa
"L'unité de la raison dans la multiplicité des cultures. Le débat philosophique contemporain"
- **René Thom**, Fields Medal, Institut des Hautes Etudes Scientifiques, Bures-sur-Yvette
"Sciences Dures et Sciences Molles: la Place des Modèles"
- **Girolamo Cotroneo**, University of Messina
"Philosophie et Sciences Humaines – Un rapport difficile"
- **Manfred Eigen**, Nobel Laureate, Director at the Max Planck Institute for Biophysical Chemistry, Göttingen
"The Physical Basis of Biology"
- **Ugo Amaldi**, CERN
"Concluding remarks"

ENTREE LIBRE – FREE ENTRANCE

Organizing Committee: U. Amaldi, G. Marotta, S. Ricci, L. Van Hove

Wednesday 11 May

SPECIAL PS ACCELERATOR SEMINAR

at 14.00 hrs – Auditorium

Introduction to accelerators

A prelude to CERN accelerator school courses

by E.J.N. WILSON / CERN-PS

Lecture 2

Wednesday 11 May

LEP SEMINAR

at 14.30 hrs – LEP Auditorium

bldg 30, 7th floor

The pumping mechanism of the NEG pump for LEP

by C. BENVENUTI / CERN-LEP

In distinction with the usual operating conditions, which consist of maintaining a NEG pump hot to continuously diffuse into the getter bulk the gases adsorbed on its surface, the LEP pump will be kept at ambient temperature and heated only intermittently. This results in a progressive reduction in pumping speed with increasing quantity of gases adsorbed. It is shown that the pumping speed reduction may be described with good accuracy by a simple mathematical formula which accounts for the progressive saturation of the NEG surface inside the cracks and porosities present in the getter film.

Wednesday 11 May

PRESENTATION

at 16.00 hrs – DD Auditorium

bldg 31, 3-005

VAX 62xx series and VMS V5

by Jean-Marc LUGRIN / Digital Equipment Corp. SA

DEC just announced a new series of VAX computers, the 6210, 6220, 6230 and 6240. They include a new high performance bus, which allows effective use of quadri-processors configuration. In addition to the support for these multi-processors, VMS V5 will support a variety of new features. Both the VAX 62xx series and VMS V5 will be presented.

Monday 16, Tuesday 17 & Wednesday 18 May

CERN-USSR SCIENTIFIC COMMITTEE MEETING

Monday 16 May

09.00 to 08.30 hrs – Main building, 6th floor

1. Opening of the meeting J.J. Thresher

2. Joint LEP experiments

Status of LEP G. Plass
DELPHI U. Amaldi
L3 Y. Kamyshkov

3. Experiments at CERN

NA12 (including 6th Joint
Experiment IHEP) J.P. Stroot
WA79 K. Winter &
A. Rosanov

EHS Experiments (NA22, NA23,
NA27)

WA82 L. Rossi
NA34 - HELIOS S. Smirnov
WA69
WA56
WA76 A. Palano
WA89 (Hyperon Beam) H.W. Siebert
WA59 (Analysis of neutrino
data) W. Venus

4. Experiments in the USSR

6th Joint Experiment
(see point 3 above, NA12)
7th Joint Experiment
SIGMA-AIAKS Experiment F. Palombo
MIS-2 Experiment F. Palombo

5. Collaboration in data

compilation E. Flaminio

Tuesday 17 May

09.00 to 12.45 hrs – Bldg 61, Room B

6. UNK

Status of UNK N. Tyurin
Information on UNK proposals
at CERN L. Montanet
Internal Jet target proposal P. Darriulat
Other proposals

7. Cooperation between CERN and USSR Institutions on exchange of preprints and production of bibliographic data base

..... S. Schwarz

8. Date of next meeting

9. AOB

Wednesday 18 May

09.00 to 11.00 hrs – Bldg 61, Room A

1. Opening of the Meeting

2. NA4 R. Voss

3. LEAR PS179 Experiment

4. LEAR PS201 Experiment U. Gastaldi

NB The DELPHI Experiment and MIS-2 Experiment will be discussed at the J.S.C. of 16 May.

Monday 16 May

SPECIAL PS ACCELERATOR SEMINAR

at 11.00 hrs – Auditorium

Introduction to accelerators

Start of course

by E.J.N. WILSON / CERN-PS

Lecture 3

Monday 16 May

EP SEMINAR

at 16.30 hrs – Auditorium

Magnetic monopole searches with superconducting and non-superconducting induced current detectors

by J.R. INCANDELA / CERN – Formerly of the
University of Chicago

After the 1982 magnetic monopole candidate reported by Cabrera, the Chicago - Fermilab - Michigan (CFM) collaboration began the development of a superconducting induction detector greater than two orders of magnitude larger than the Stanford detector. By mid-1984 this detector had seen no monopole candidates in more than 200 times the exposure in which the Stanford candidate had been reported. The speaker will discuss this experiment and subsequent research his group has done in the interest of extending the induced current technique to still larger areas at reasonable costs. A first version of a non-superconducting transient response induction detector has now been operated at liquid nitrogen temperature and yielded a detectable signal for a single Dirac charge monopole. Implications of high T_c superconductors for future generations of induction detectors will also be briefly discussed.

Wednesday 18 May

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

Fun with gravitational waves and beams

by G. VENEZIANO / CERN

Gravitational waves associated with massless beams of arbitrary energy profile are described at a non-specialized level from a particle theorist's perspective. Amusing properties of their geodesics are pointed out and shown to be useful for:

- i) decoding the information contained in recent results on high energy string collisions,*
- ii) understanding the origin of certain classical singularities and the way these might be avoided by quantum, string-size effects.*

Mercredi 18 mai

REUNION OUVERTE DU LEP

à 14.30 h – Amphithéâtre du LEP
bât. 30, 7e étage

Métrologie d'installation du LEP

par M. HUBLIN & M. MAYOUD / CERN-LEP

Après rappel des phases antérieures – topométrie de contrôle du Génie Civil, implantation des infrastruc-

tures – les différentes étapes de la métrologie du LEP et du positionnement précis des éléments de la machine seront illustrées par des séquences vidéo et commentées : géodésie de surface, réseau métrologique sur tripodes amovibles, alignement des quadrupôles, dipôles et cavités r.f.

Wednesday 18 May

COMPUTER SEMINAR

at 16.00 hrs – Auditorium*

Solving large scientific problems concurrently

by Richard CHAMBERLAIN / Intel
Corporation

The Intel iPSC/2, with up to 128 processors and up to 1 Gigabyte of memory and 1 Gflop performance, enables many large scientific problems to be solved in reasonable timescales for the first time. This talk describes the iPSC/2, its architecture, its programming environment and programming tools, and its Direct Connect communications. Decomposition strategies for solving problems on concurrent machines are discussed and several examples are given to illustrate the programming and performance of these machines. Two typical applications in the field of fluid dynamics are presented.

Dr Richard Chamberlain received a BA in Mathematics at Oxford and a PhD at Cambridge for research into the numerical solution of optimization problems. He worked for the UK Government carrying out research in speech recognition before moving to the Chr. Michelsen Institute in Bergen to work on parallel algorithms, particularly for oil-related problems. Currently he is responsible for the technical activities of Intel Scientific Computers in Europe, as well as continuing his research on parallel numerical algorithms.

* Tea & coffee will be served at 15.30 hrs.

Thursday 19 May

TECHNICAL PRESENTATION

10.00 to 12.00 hrs & 14.00 to 17.00 hrs

DD Auditorium (bldg 31, room 3-005)

Dr B. Struck (D), represented by Antares AG (CH), will exhibit their latest products in VME and Fastbus areas. VME products : STR 700, VME Crate : 300 W incl. Fan control and display for U/J modular – STR 730, FDDP : Fast Digital Data Processor, equipped with two DSPs TMS 32010. Variety of analog input boards (flash ADC, charge integrating ADC) – STR 721, VME CNTR : 32 channel scaler counter. ECL and TTL input $\geq 10 \mu s$ width up to 5 MHz input rate – DL 400/401, VME-FADC : 100 MHz flash-ADC module 4 channel, 1024 words/channel, 8 bit resolution, 10 bit eff. dynamic range – STR 302, CFIVC (super VIOR) : dual 16 bit input channel, dual 16 bit output channel, general purpose DMA controller, high speed system link (eg. FASTBUS TO VME).

Fastbus products : STR 351, DSM : dual slave memory, max. 2 M byte static RAM (crate/cable/GMP-port) – STR 500, GPM : general purpose 68k FASTBUS master (rerouted version) – STR 501, AEB : high performance 68020 based event-builder and readout controller, STR 200, scaler : 100 MHz scaler, ECL-input, 32 channel, 32 bit, read on fly – STR 102, fastbus : mini-crate for lab. application.

Languages : English

Renseignements : M. Diraison / FI / 4585.

Mercredi 25 mai

SEMINAIRE LEP

à 14.30 h – Amphithéâtre LEP

Régulations en boucle fermée d'un télé-manipulateur hydraulique avec réflexion de force

par K.D. LOHMANN / CERN-LEP

Le nouveau télémanipulateur du CERN, MANTIS II, possède des actionneurs hydrauliques compacts et puissants. La réflexion de force entre les manipulateurs maître et esclave est obtenue à l'aide de capteurs de force sensibles. Les propriétés dynamiques des actionneurs et des bras du manipulateur ont demandé des études approfondies pour déterminer les meilleures structures et paramètres des boucles de régulation.

Thursday 26 May

ISOLDE SEMINAR

at 11.00 hrs – Council Chamber

Orbital and spin magnetic dipole excitations in nuclei

by A. RICHTER / T.H. Darmstadt

Thursday 26 May

ISOLDE COMMITTEE

at 14.00 hrs – Council Chamber

Open Meeting of the ISOLDE Committee

Du lundi 30 mai au vendredi 3 juin

SEMINAIRE MICRO-EDITION SUR MACINTOSH

de 14.00 à 17.00 h

Tous les 'outils' pour faire de la micro-édition : Page Maker (mise en page, fonts, Postscript, etc.), avec les programmes complémentaires pour insérer des graphiques et des textes.

Les participants devront avoir les connaissances de base du Macintosh.

Pour les inscriptions, s'adresser à Mme W. HUG / EP, tél. 8-7159 de 08.00 à 12.00 h.

Nombre de places limité.

Date limite d'inscription : mercredi 25 mai.

TRAINING AND EDUCATION ENSEIGNEMENT

ENSEIGNEMENT GENERAL

Tél. 2844 - 5811

Jeudi 19 mai

de 13.00 h à 13.30 h – Amphithéâtre

Science pour tous

par R. CARRERAS

ACADEMIC TRAINING

Tel. 2844 - 3364

9, 10 & 11 mai

11.00 h to 12.00 – Auditorium

Théorie des catastrophes

par R. THOM / IHES, Bures-sur-Yvette

(In French)

ENSEIGNEMENT TECHNIQUE TECHNICAL TRAINING

Séminaires techniques

ELEMENTS FINIS

Deux séminaires sont organisés à l'intention des ingénieurs et techniciens supérieurs (projeteurs) désireux d'utiliser des logiciels d'éléments finis pour l'étude et la réalisation de constructions mécaniques.

Introduction à CASTEM

16 au 20 mai 1988

par A. Lefrançois et L. Borne / EF

CASTEM est un logiciel accessible sur les ordinateurs centraux (VM/CMS) développé par le CEA et Informatique Internationale. Les divers modules seront utilisés avec des travaux pratiques sur terminaux :

1. Le mailleur GIBI (graphique interactif)
2. Le module INCA pour le calcul des structures à deux dimensions.
3. Le module BILBO pour le calcul des structures à trois dimensions (problèmes thermiques inclus)