

Busy at BEBC

First physics results are now coming in from the mighty BEBC bubble chamber using beams from the SPS. Over 350,000 photographs were taken before the scheduled SPS shutdown, with the chamber achieving over 95 percent efficiency in its first real operational period for SPS physics. In particular, two experiments using 200 GeV neutrino beams and involving physicists from Aachen, Bonn, London, Oxford and Saclay, as well as CERN, have between them taken over 280,000 BEBC photographs this year, despite some initial teething troubles with the SPS beams. For these experiments, BEBC is filled with a mixture of liquefied neon in hydrogen. From the photographs, physicists were able to isolate and identify 520 examples of elusive neutrinos and 250 of even more elusive antineutrinos interacting with nuclei to give muons. Although the analysis of these pictures is not yet finished, it already looks as though these first BEBC results could help exorcise a few phantom effects from physics which were difficult to understand and were giving people trouble, while other results have been confirmed and extended. The left-hand photograph shows the complexity of the sort of interactions which are being studied, while the right-hand photograph, which is an enlargement of the primary interaction area, shows just how well BEBC can record the details of this maze of interactions. Many more BEBC experiments are still in the pipeline, and physicists are hoping that this initial success is just a foretaste of what is still to come.

BEBC au travail...

Nous disposons maintenant des premiers résultats de recherche obtenus avec BEBC, la grande chambre à bulles irradiée par les faisceaux du SPS. Plus de 350 000 photographies ont été enregistrées avant l'arrêt planifié du SPS. Au cours de la première période d'exploitation pour la physique aux énergies du SPS, le taux de disponibilité de cette chambre a été supérieur à 95%. En particulier, deux expériences utilisant des faisceaux de neutrinos de 200 GeV, effectuées par des physiciens d'Aix-la-Chapelle, Bonn, Londres, Oxford et Saclay travaillant avec des chercheurs du CERN, ont permis d'enregistrer cette année plus de 250 000 photos, en dépit de quelques «maladies de jeunesse». Pour ces expériences, BEBC est remplie d'un mélange de néon et d'hydrogène liquides. A partir des photographies, les physiciens ont pu isoler et identifier 520 événements d'insaisissables neutrinos et 250 événements d'anti-neutrinos, encore plus insaisissables, qui ont interagi avec les noyaux pour produire des muons. Bien que l'analyse de ces photos ne soit pas encore achevée, il semble que ces premiers résultats obtenus avec BEBC devraient permettre de démystifier quelques effets fantomatiques qu'il était difficile d'interpréter et qui préoccupaient les physiciens, alors que d'autres résultats se trouveront confirmés et étendus. La photographie de gauche illustre la complexité du type d'interactions étudiées; celle de droite, qui est un agrandissement de la zone d'interaction primaire, souligne l'aptitude de BEBC à enregistrer les plus fins détails de ce labyrinthe d'interactions. De nombreuses autres expériences attendent que BEBC les accueille et les physiciens espèrent que ces premiers succès ne constitueront qu'un avant-goût des futures découvertes.

SEMINARS SEMINAIRES

MONDAY 1 AUGUST

TECHNICAL PRESENTATION

at 14.00 hrs - EF Conference Room
(Bldg.13 - 2nd floor - R 2-005)

PLESSEY (GB), represented by PLESSEY GmbH (D) will give an 'Optical Memories Technical Presentation'.

PLESSEY Memories have developed a laser-based holographic memory system with a storage capacity of up to 10^{12} bits. The revolutionary storage material 'Optape' can store 100K bits of data per square millimetre, or 62 m per square inch. Data can be read and rewritten many thousands of times, without degradation. 'Optape' is handled like magnetic tape but stores 10 000 times more data. It is far less sensitive to dust or scratching because it stores its information as an interference pattern and the original data pattern is distributed uniformly across the hologram. PLESSEY are presenting both an archival system (read only - helium-neon laser) and a plug compatible system unit (read/write - argon-ion laser). On-line systems costs can be reduced by a factor of 100 for a given amount of mass data. Applications will include mass archival storage, experimental data storage, simulation data, video replacement and on-line systems replacement.

Languages : English/German according to audience.

Information : M. Diraison / FI / Tel. 4585.

TUESDAY 2 AUGUST

CERN PARTICLE PHYSICS SEMINAR

at 16.00 hrs - Auditorium

"Results on neutral currents from the CERN/Dortmund/Heidelberg/Saclay neutrino experiment"

by F. Dydak / Univ. of Heidelberg

THURSDAY 4 AUGUST

CERN PARTICLE PHYSICS SEMINAR

at 16.00 hrs - Auditorium

"Upper limit on parity non-conserving neutral currents in atomic bismuth"

by E.N. Fortson / Univ. of Washington, Seattle

TUESDAY 9 AUGUST

CERN COMPUTER SEMINAR

at 14.00 hrs - Council Chamber

"Interpretive machines and program representation"

by M.G. Flynn / Stanford Univ.

TRAINING AND EDUCATION ENSEIGNEMENT

ENSEIGNEMENT TECHNIQUE Programme 1977 - 1978

MATHEMATIQUES

- Ateliers de mathématiques

PHYSIQUE APPLIQUEE

- Classification et interactions des particules
- Les accélérateurs et leur technologie
- Technologie des systèmes hydrauliques
- Technologie des gaz

ELECTRONIQUE

- Initiation à l'électronique (1ère année)
- Travaux pratiques d'électronique
- Systèmes non-linéaires et échantillonnés
- Fonctions logiques complexes
- Systèmes logiques programmés
- Circuits à sécurité intrinsèque
- Introduction à la fiabilité des composants

INFORMATIQUE

- Techniques de programmation en FORTRAN (2ème année)
- Introduction to computers
- Programmation en BASIC
- Programming in BASIC
- Introduction aux microprocesseurs
- Introduction to microprocessors
- Techniques de programmation des mini-ordinateurs
- Informatique de gestion (2ème année)

MECANIQUE

- Initiation aux techniques d'atelier
- Electro-mécanique
- Mesures par jauges de contraintes

ADMINISTRATION

- Procédures administratives et financières
- Eléments de statistique administrative
- Organisation des travaux administratifs.

La brochure contenant la description détaillée des cours, les durées et horaires ainsi que la procédure d'inscription peut être obtenue en retournant la carte verte qui a été distribuée à tout le personnel ou, à défaut, en renvoyant le coupon ci-dessous.



Au : Secrétariat de l'Enseignement Technique

De :

Division :

Je désire recevoir le Programme 1977-1978.

Délai d'inscription : 29 août 1977 au plus tard.

SUMMER STUDENT LECTURES

Date Time Title

This week :

- | | | |
|-------|-------|---|
| 1.8 - | 8.30 | No lecture |
| | 10.00 | No lecture |
| | 11.15 | C. Peyrou - The classic experiments which founded high energy physics |
| 2.8 - | 8.30 | No lecture |
| | 10.00 | S. Ting - Photons, heavy photons and new particles of matter (*) |
| | 11.15 | C. Peyrou - The classic experiments which founded high energy physics |
| 3.8 - | 8.30 | L. Van Hove - CERN and elsewhere in the 1980's |
| | 10.00 | No lecture |
| | 11.15 | C. Peyrou - The classic experiments which founded high energy physics |
| 4.8 - | 8.30 | D. Treille / L. Montanet - The structure of nucleons through lepton (e, μ , ν) scattering. Analysis of a few important experiments |
| | 10.00 | J.D. Jackson - The new particles: properties and spectroscopy |
| 5.8 - | 8.30 | D. Treille / L. Montanet - The structure of nucleons through lepton (e, μ , ν) scattering. Analysis of a few important experiments |
| | 10.00 | J.D. Jackson - The new particles: properties and spectroscopy. |

(*) Please note that Professor S. Ting's lecture to the Summer Students will be given on Tuesday, August 2 at 10.00 in the Auditorium (and not on July 29 or August 22, as previously announced).

Next week :

- | | | |
|--------|-------|---|
| 8.8 - | 8.30 | D. Treille / L. Montanet - The 'New Physics'. Experiments on ψ , charm and heavy lepton production |
| | 10.00 | J.D. Jackson - The new particles: properties and spectroscopy |
| 9.8 - | 8.30 | D. Treille / L. Montanet - The 'New Physics'. Experiments on ψ , charm and heavy lepton production |
| | 10.00 | J.D. Jackson - What can the famous 21 cm astrophysical spectral line of atomic hydrogen tell us about the nature of magnetic dipoles? |
| 10.8 - | 8.30 | D. Treille / L. Montanet - Concepts and experiments in hadronic interactions : diffraction, peripheral interaction, hard scattering, etc. |
| | 10.00 | H.M. Chan - How we use quantum mechanics in particle physics |
| | 11.15 | F. James - Computing techniques: The Monte Carlo method |

- | | | |
|--------|-------|---|
| 11.8 - | 8.30 | D. Treille / L. Montanet - Spectroscopy of the hadrons: methods and results |
| | 10.00 | H.M. Chan - How we use quantum mechanics in particle physics |
| | 11.15 | F. James - Computing techniques: The Monte Carlo method |
| 12.8 - | 8.30 | D. Treille / L. Montanet - Spectroscopy of the hadrons: methods and results |
| | 10.00 | H.M. Chan - How we use quantum mechanics in particle physics |
| | 11.15 | F. James - What is a random number. |

All the lectures are held in the Auditorium and given in English

Fellows and Associates Service /
Personnel Division - Tel.4471-2-3

INFORMATIONS **GENERALES** GENERAL **INFORMATION**

HOW DOES A SUPERBRAIN WORK ?

In spite of his retirement, Wim KLEIN will present us with a show on

Tuesday 2 August at 20.00 hrs in Auditorium.

An American television crew, in collaboration with the Institute of Noetic Sciences will record this happening.

Hopefully, Wim KLEIN will be joined by the equally famous Hans EBERSTARK.

The show will be in English without translation. Admission is free but the number of seats is limited.

TRANSFERT DU SERVICE NETTOYAGE/BLANCHISSERIE

Ce service sera transféré dans le courant de la première semaine d'août dans le bâtiment 570 (ex. cantine Ohanessian), accès côté CERN.

Veuillez téléphoner au 3654 ou 3753 avant de vous rendre dans ce service.

Division SB



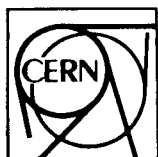
BANQUE - SOCIETE DE BANQUE SUISSE

A l'occasion de la Fête Nationale Suisse, nos guichets et bureaux seront fermés le 1er août 1977.

SBS / Agence CERN

Plats du jour des restaurants

<i>Midi/Lunch Time</i>	No. 1 <i>Bâtiment Administratif Administration Building (CH)</i>	No. 2 <i>Bâtiment 504 Building 504 (CH)</i>	No.3 <i>SPS, Bloc 3 SPS, Block 3 Prévessin (F)</i>
<i>Prix</i>	I = fr. 4,50 II = 5,10	I fr 4,50 II fr. 5,10	fr.fr. 7,50
LUNDI/ MONDAY	I ASSIETTE DE HORS D'OEUVRE II QUENELLES DE BROCHET SAUCE POISSON RIZ BLANC SALADES MELEES	I SAUCISSE DE VEAU GARNIE II POULE AU RIZ SAUCE BEARNAISE	FOIE DE GENISSE RIZ LEGUMES DE SAISON
MARDI/ TUESDAY	I SPAGHETTI AUX FRUITS DE MER II GRILLADE DE PORC TOMATE PROVENCALE POMMES DE TERRE NOUVELLES	I SPAGHETTI BOLOGNAISE II PICCATA MILANAISE	FILETS DE POISSON A LA PROVENCALE POMMES NATURES EPINARDS A LA CREME
MERCREDI/ WEDNESDAY	I OEUF AU PLAT FLORENTINE II FISH AND CHIPS SALADE DE TOMATES	I OEUF FLORENTINES II EPAULE DE PORC AU ROMARAIN	LAPIN CHASSEUR COQUILLETES TOMATES AU FOUR
JEUDI/ THURSDAY	I SAUCISSE DE VEAU A LA BERNOISE II BOEUF BOUCHERE DEUX SALADES	I ASSIETTE FROIDE GARNIE II HAMBURGER OEUF A CHEVAL	GODICEAUX POMMES PUREE PETITS POIS
VENREDI/ FRIDAY	I RISOTTO ALBUFERA II LA MAREE DU JOUR GARNIE	I CROQUETTES DE POISSON II CABILLAUD SAUCE AUX CAPRES	STEACK HACHE SAUCE MARCHAND DE VIN HARICOTS VERTS POMMES FRITES



ASSOCIATION DU PERSONNEL STAFF ASSOCIATION

APPEALS

A number of disputes have arisen between members of the personnel and the Management during the course of the year. The recommendations of the Joint Advisory Appeals Board and the decisions of the Director-General have been brought to the notice of the Staff at large with the agreement of the persons concerned.

The results of six appeals are given below :

1. Mrs. J.R. appealed against what she claimed was an inadequate reimbursement of school fees. She won her case.
2. M.E. appealed against the terms under which his home leave expenses were reimbursed and asked for extra leave for the journey. Although the Board recommended that the reimbursement be calculated on a different basis, the decision of the Director-General went against the appellant.
3. R.M. lodged an appeal against the definition of his residential category. Although the Board recommended that the appeal should be allowed, the Director-General did not follow the recommendation, mainly on the grounds that the appeal had been lodged too late.
4. H.B. appealed against the Management's refusal to change his home station. The Board recommended that the charge should be made in view of the charge in the person's family status. The Director-General followed this recommendation.
5. M.L.S. appealed against the Management's decision to deduct from his non-resident allowance another allowance received by his wife who worked for another organization. The Board recommended that he should continue to draw the allowance in full and the Director-General followed this recommendation.
6. M.T. contested a similar decision by the Management. Whilst the case was before the Appeals Board the Management announced that it would withdraw its decision, and the matter was settled to the satisfaction of the person concerned.

POUR INFORMATION

GYM-TO-JAZZ CLUB

DOUZIEME SAISON 1977/78 - DEBUTE LE LUNDI 12 SEPTEMBRE

Le Club est ouvert aux membres du personnel de toutes les organisations internationales et les délégations permanentes, ainsi qu'aux membres de leur famille. Il n'y a pas d'âge limite, mais les enfants doivent avoir plus de 16 ans.

LOCAL : Collège Rousseau, chemin du Bouchet
PROFESSEUR : Raoul Lanvin, chorégraphe de danse de jazz moderne, aidé de ses assistants.
COTISATIONS, PAYABLES D'AVANCE : pour 1 (2) heure(s) par semaine.
1ère période : Fr. 70.- (Fr. 100.-) (12 sept. - 14 déc.)
2ème période : Fr. 60.- (Fr. 90.-) (9 janv. - 22 mars)
3ème période : Fr. 60.- (Fr. 90.-) (3 avril - 14 juin).

Nous offrons à nos membres, tant aux messieurs qu'aux dames, une formule agréable de maintien physique. Beaucoup l'utilisent comme préparation aux sports d'hiver. C'est un mélange de danse, de gymnastique et de rythmique, soit un moyen original de se maintenir en forme, à la portée de tous.

Les personnes désireuses de s'inscrire au Club sont priées de remplir le formulaire ci-dessous et de le RETOURNER AVANT LE 31 AOUT à : "Gym-to-jazz" c/o Mme S. Zivian, CERN, 1211 Genève 23. Elles recevront un accusé de réception accompagné d'un bulletin de versement.

GYM-TO-JAZZ CLUB

Je désire participer aux cours mentionnés dans votre circulaire.

NOM/Prénom (Majuscules, SVP) : Mme, Mlle, Mr.
Adresse Privée :
Téléphone Privé :
Organisation ou Délégation : No. bureau.....Tél. int.....

IMPORTANT Prière de souligner le jour et l'heure qui conviennent :

Lundi / Mercredi : 18.00 - 19.00 / 19.00 - 20.00 (débutants)
Mardi : 18.00 - 19.00 / 19.00 - 20.00 (autres)

ENTRAIDE

APPEL D'AIDE D'URGENCE

EN FAVEUR DES SINISTRES DES INONDATIONS DANS LE SUD-OUEST FRANCE.

Nous vous rappelons qu'un appel d'urgence en faveur des victimes de ce désastre est lancé par l'Association du Personnel.

Des boîtes de collecte sont déposées aux endroits habituels :

- Restaurants du CERN
- Comptoirs des banques
- Postes

COLLECTE DE VETEMENTS

Un certain nombre de ces victimes se trouvent actuellement sans abri. Des vêtements, même usagés, leur seraient d'un précieux secours ! Si vous pensez pouvoir les aider dans ce domaine, nous vous serions reconnaissants de déposer vos dons au Secrétariat de l'Association du Personnel qui se chargera de transmettre.

Nous vous en remercions d'avance.

CLUBS

SKI-CLUB

RANDONNEES PEDESTRES

Rappelons que c'est le dimanche 14 août qu'aura lieu la première sortie pédestre en montagne qui nous mènera de "SIXT" (Salvagny) 1000 m. aux chalets de "SALES" 1880 m. Pas de difficultés, durée totale de marche 5h.

Prévoir : chaussures de montagne, vêtements chauds, pique-nique.

Rendez-vous : Parking Migros, cité satellite, Meyrin à 7h. Suisse.

A renvoyer à Mr. TRANCHANT P. Div. ISR le plus tôt possible.

NOM.....Prénom.....DIV.....

Désire participer à la sortie du 14 août.

signature:

YACHTING-CLUB

Résultats de la Muffin Cup (temps compensé)

- | | |
|------------------------|---------------|
| 1. PINKHAM | en 115,45 mn. |
| 2. STRUBBE + STRUBBE | en 115,70 mn. |
| 3. MAURER + MAURER | en 115,80 mn. |
| 4. WILLIAMS + WILLIAMS | en 156,72 mn. |
| 5. SUTTER + FIELD | en 161,06 mn. |
| 6. FRESLE + KORDER | en 193,87 mn. |

Prochaine régate le 13 août et mini-régate le 6 août.

COOPERATIVES

SAFI

Fermeture annuelle du 1er au 19 août inclus.

En cas d'urgence, appeler l'interne 2589 ou 2590 entre 8 heures et 11 heures le matin.

Réouverture le lundi 22 août à 12h30.

CALENDRIER HEBDOMADAIRE

1977

WEEKLY CALENDAR

LUNDI MONDAY	MARDI TUESDAY	MERCREDI WEDNESDAY	JEUDI THURSDAY	VENDREDI FRIDAY
1.8	2.8	3.8	4.8	5.8
11:15 A SUMMER STUDENT LECTURE The classic experiments which founded high energy physics - by C. Peyrou (Lecture 1)	10:00 A SUMMER STUDENT LECTURE Photons, heavy photons and new particles of matter - by S. Ting	8:30 A SUMMER STUDENT LECTURE CERN and elsewhere in the 1980's - by L. Van Hove	8:30 A SUMMER STUDENT LECTURE The structure of nucleons through lepton (e, μ , ν) scattering. Analysis of a few important experiments - by D. Treille and L. Montanet (Lecture 1)	8:30 A SUMMER STUDENT LECTURE The structure of nucleons through lepton (e, μ , ν) scattering. Analysis of a few important experiments - by D. Treille and L. Montanet (Lecture 2)
14:00 TECHNICAL PRESENTATION PLESSEY Optical memories technical presentation by PLESSEY (GB) represented by PLESSEY GmbH (D) EF Conference Room (Bldg.13 - 2nd floor - R 2-005)	11:15 A SUMMER STUDENT LECTURE The classic experiments which founded high energy physics - by C. Peyrou (Lecture 2)	11:15 A SUMMER STUDENT LECTURE The classic experiments which founded high energy physics - by C. Peyrou (Lecture 3)	10:00 A SUMMER STUDENT LECTURE The new particles : properties and spectroscopy - by J.D. Jackson (Lecture 1)	10:00 A SUMMER STUDENT LECTURE The new particles : properties and spectroscopy - by J.D. Jackson (Lecture 2)
16:00 A CERN PARTICLE PHYSICS SEMINAR Results on neutral currents from the CERN/Dortmund/Heidelberg/Saclay neutrino experiment - by F. Dydak / Univ. of Heidelberg	16:00 A CERN PARTICLE PHYSICS SEMINAR Upper limit on parity non-conserving neutral currents in atomic bismuth - by E.N. Fortson / Univ. of Washington, Seattle	16:00 A CERN PARTICLE PHYSICS SEMINAR Upper limit on parity non-conserving neutral currents in atomic bismuth - by E.N. Fortson / Univ. of Washington, Seattle	16:00 A CERN PARTICLE PHYSICS SEMINAR Upper limit on parity non-conserving neutral currents in atomic bismuth - by E.N. Fortson / Univ. of Washington, Seattle	16:00 A CERN PARTICLE PHYSICS SEMINAR Upper limit on parity non-conserving neutral currents in atomic bismuth - by E.N. Fortson / Univ. of Washington, Seattle
20:00 A A HAPPENING WITH WIM KLEIN "How does a superbrain work?" - with Wim Klein and Hans Eberstark	20:00 A A HAPPENING WITH WIM KLEIN "How does a superbrain work?" - with Wim Klein and Hans Eberstark	20:00 A A HAPPENING WITH WIM KLEIN "How does a superbrain work?" - with Wim Klein and Hans Eberstark	20:00 A A HAPPENING WITH WIM KLEIN "How does a superbrain work?" - with Wim Klein and Hans Eberstark	20:00 A A HAPPENING WITH WIM KLEIN "How does a superbrain work?" - with Wim Klein and Hans Eberstark
8.8	9.8	10.8	11.8	12.8
8:30 A SUMMER STUDENT LECTURE The 'New Physics'. Experiments on ψ , charm and heavy lepton production - by D. Treille and L. Montanet (Lecture 1)	8:30 A SUMMER STUDENT LECTURE The 'New Physics'. Experiments on ψ , charm and heavy lepton production - by D. Treille and L. Montanet (Lecture 2)	8:30 A SUMMER STUDENT LECTURE Concepts and experiments in hadronic interactions : diffraction, peripheral interaction, hard scattering, etc. - by D. Treille and L. Montanet	8:30 A SUMMER STUDENT LECTURE Spectroscopy of the hadrons : methods and results - by D. Treille and L. Montanet (Lecture 1)	8:30 A SUMMER STUDENT LECTURE Spectroscopy of the hadrons : methods and results - by D. Treille and L. Montanet (Lecture 2)
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14:00 C CERN COMPUTER SEMINAR Interpretive machines and program representation - by M.G. Flynn/Stanford Univ.	14:00 C CERN COMPUTER SEMINAR Interpretive machines and program representation - by M.G. Flynn/Stanford Univ.	11:15 A SUMMER STUDENT LECTURE Computing techniques : the Monte Carlo method - by F. James (Lecture 1)	11:15 A SUMMER STUDENT LECTURE Computing techniques : the Monte Carlo method - by F. James (Lecture 2)	11:15 A SUMMER STUDENT LECTURE What is a random number - by F. James

A Amphithéâtre/bât. Auditorium/bldg.

Th Salle Théorie/bât. Theory lecture room/bldg.

DG Sixth Floor Conference Room ADM bldg. Salle de conférence du sixième ét. bld. ADM

lieu selon indication place as indicated

C Salle du Conseil/bât. Council Chamber/bldg.

I Amphithéâtre des ISR/bât. 30-7e ét. ISR Auditorium /bldg. 30-7th fl.

S SPS Auditorium - Prévesin/Bloc 1-1er ét. Amphithéâtre SPS

Deadline for insertion: Tuesday 12 hrs.
Staff Association
SIS-FU (M.J. Blaziani - Tél. 4106)Dernier délai pour insertion : mardi 12 h.00
Association du Personnel
SIS-FU (M.J. Blaziani - Tél. 4106)