

corporate level into artificial intelligence. The initial work of this research group covered : natural language, smart computer-based learning, speed recognition, text understanding, advanced H/W design, programming environment.

This research has been applied by the different divisions within Texas Instruments. The aim of this presentation is to show the results of this application. These products cover natural language interface building tools, Expert System development tools and scientific applications.

Texas Instruments' association with MIT, has resulted in the announcement recently of a specialised LISP machine, named Explorer. The details of this machine and its development environment will be presented.

10.00 to 12.30 hrs

1. An overview of Texas Instruments and Digital Systems Division
2. The commercial computing products of TI
3. Artificial intelligence at TI
 - past, present and future
4. Available artificial intelligence products from TI
 - natural language interfaces to data bases
 - personal consultant - Expert System development tool
 - Arborist - decision tree tool
 - Explorer hardware and software (this will be covered by a member of TI's specialist team in Artificial Intelligence).

14.00 to 15.00 hrs

5. Demonstrations of TI's Artificial Intelligence Products
6. Questions and answers.

Monday 10 June

EF SEMINAR

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

Search for gravitational waves

by Edoardo AMALDI / University of Rome

After recalling the main lines of the derivation of the existence of gravitational waves from the equations of General Relativity made by E. Einstein in 1916, the speaker will summarize their most relevant properties, in particular the mechanisms involved in their emission and detection.

The rest of the seminar will concern the two types of detectors that have reached today a rather advanced stage of development : laser interferometers and resonant bars.

As a conclusion the sensitivity reached today will be given.

Tuesday 11 June

CERN PARTICLE PHYSICS SEMINAR

at 16.30 hrs – Auditorium

W and Z in UA2

by Livio MAPELLI / CERN

Mercredi 12 Juin

SEMINAIRE LEP

à 14.30 h – Amphithéâtre LEP
(bât. 30, dernier étage)

Géodésie du LEP : Principes et comparaison des mesures terrestres et spirales

par M. MAYOUD / CERN-LEP

Thursday 13 and Friday 14 June

SEMINAR ON GAS SYSTEMS

Open Meeting

CERN is holding an Open Meeting on current developments in the gas systems required for large experiments. Participation is welcome from all interested physicists and engineers both at CERN and from other institutes.

Thursday 13 June

at 14.00 hrs – DD Conference Room
(bldg. 31, 3-005)

Effects of impurities on detector performance

Purification methods

Mixing techniques

Multichannel distribution systems

New streamer chamber gas mixtures.

Friday 14 June

at 09.00 hrs – DD Conference Room
(bldg. 32, 3-005)

Primary gas supplies

DESY gas systems

The ALEPH TPC gas system

UA1 gas systems

Applications of microprocessor control

Safety in design and operation

Please contact F. BONAUDI, tel 5847, or R.C.A. BROWN, tel. 5851 to confirm

- your attendance

- your intention to contribute on these (or other) topics.

TRAINING AND

EDUCATION

ENSEIGNEMENT

ENSEIGNEMENT GENERAL

Tél. 2844

Jeudi 6 juin

de 13.00 h à 13.30 h – Amphithéâtre

Science pour tous

par R. CARRERAS

ACADEMIC TRAINING

Tel. 2844-3364

3, 4 and 5 June

3 and 4 June : 11.00 to 12.00 hrs

5 June : 10.00 to 11.00 hrs

LEP Auditorium (last floor of bldg. 30)

Hamiltonian mechanics

by J.S. BELL / CERN

5, 6 and 7 June

11.00 to 12.00 hrs – Auditorium

Physics at LEAR

by R. ARMENTEROS and P. LEFEVRE /
CERN

10, 11, 12, 13 and 14 June

11.00 to 12.00 hrs – Auditorium

Control systems for accelerators and storage rings

by G. BENINCASA, J. BOILLOT,
J. GAMBLE, G. SHERING and
P. WOLSTENHOLME / CERN

Lecture 1, by J. BOILLOT (French)

Overview of the accelerator control problem and its evolution over the last 20 years; operations aspects and requirements; synchronisation and pulse to pulse modulation.

Lecture 2, by P. WOLSTENHOLME (English)

The equipment interface; connection of remote equipment; evolution towards local intelligence; bus standards for microprocessors; the role of networks.

Lecture 3, by G. BENINCASA (English)

History of the PS control systems; integration of hardware and software; pulse to pulse modulation and the virtual machine; micros in instrumentation; reliability; costs.

Lecture 4, by J. GAMBLE (English)

Storage ring control systems, experience at the ISR, abstraction in control operations, automation; central and distributed processing; alarm systems; databases.

Lecture 5, by G. SHERING (English)

The man-machine interface; the language issue; supervisory control and automatically sequenced operations; optimisation and modelling; help pages and expert systems.

Mardi 11 juin

LES SCIENCES AUJOURD'HUI

à 20.00 h précises – Auditorium

(jusqu'à environ 22.00 hrs)

par R. CARRERAS

Rafel Carreras, responsable du programme d'Enseignement général au CERN, commentera et expliquera un

choix d'articles parus récemment dans des revues scientifiques, et qui couvrent l'ensemble des sciences physiques et biologiques ainsi que certains aspects des relations science-société.

Une attention particulière est portée au langage et aux notions utilisés afin que les explications et les commentaires soient accessibles aux personnes n'ayant pas de formation scientifique.

Entrée libre.

(Please note that the conference will be given in FRENCH.)

Service des Relations Publiques

Tel. 2722

INFORMATICS TUTORIAL 1985-3

24 to 27 June

09.00 to 12.00 hrs and from 14 to 17.00 hrs

Prolog for expert systems

by Jacques MENU / Department of Mathematics, EPF Lausanne

The programming language PROLOG was defined by a team led by A. Colmerauer in Marseille in 1972, influenced by the work of J.A. Robinson and R.A. Kowalski. It relies on the key idea that the logical specification of a problem may be used as a program to solve the problem itself. Interest in PROLOG has boomed since it was selected for the Japanese 5th Generation Computer project in 1981. Dialects of the language are available on various computer systems and are used for applications such as natural language interfaces, logical circuit analysis, compilers and expert systems.

Expert Systems are computer programs performing automatic reasoning in a well defined field. Knowledge is usually expressed as a set of rules, independent from the reasoning mechanism, and the system can perform deductions based on the knowledge it has and information provided by the user. The knowledge base can easily be modified, and the system is also able to explain how it has derived the answer.

This course will present the PROLOG language through examples, review traditional techniques of Artificial Intelligence and introduce the fundamentals of Expert Systems. The lectures will be combined with practice with C-Prolog under Vax VMS. Some experience in high level language programming is required.

The course material will include the book 'PROGRAMMING IN PROLOG' by W.F. Clocksin and C.S. Mellish, copy of the lecture notes and the C-Prolog User's Manual.

To register, please contact Mrs Monique Antal, DD Division, phone 2396, before June 11. The attendance will be limited to 32.

On June 19 at 16.00 hrs J.P. Muller will give a DD seminar on 'Expert Systems : future and reality'.

Jacques MENU is Assistant Professor at the Department of Mathematics of the EPFL. He graduated in Mathematics from EPFL in 1977 and received a PhD in Com-

puter Science from the same school in 1983. He developed two compilers for the high level programming language NEWTON. His current interests include logic programming, automated reasoning, compilation and man-machine interfaces.

INFORMATIONS

GENERALES

GENERAL INFORMATION

Du 4 au 7 juin 1985

Hall du Bâtiment de l'Administration
(Bât. 60 - 1^{er} étage)

09h00 - 17h30

L'ALLEMAGNE AU CERN

Vingt-six firmes allemandes présenteront le dernier cri de leur technologie à l'exposition '**L'Allemagne au CERN**'. Cette exposition est organisée, à l'initiative et sous le patronage du Ministère fédéral de la recherche et de la technologie (BMFT), par Kienbaum International Promotion GmbH.

Exposants : voir liste ci-après.

Vous pourrez obtenir un programme détaillé :

- au secrétariat de votre division
- au service de Documentation, bât. 64, R-002.
- à l'exposition même.

(Vous trouverez également la liste des exposants et de leurs produits dans l'édition du COURRIER CERN de mai, pages 150 à 155.)

4 - 7 June 1985

Administration Building
(Bldg. 60 - 1st floor)

09.00 hrs - 17.30 hrs

GERMANY AT CERN

Twenty-six German firms will be presenting their latest technology at the '**Germany at CERN**' exhibition. This exhibition is being organized on the initiative and under the auspices of the Federal Ministry of Research and Technology (BMFT) by Kienbaum International Promotion GmbH.

For list of exhibitors, see below.

A detailed programme will be available :

- at your Division's Secretariat
- at the Documentation Office, bldg. 64, R-002.
- at the Exhibition.

(A detailed list of exhibitors and their products can also be found in the May issue of the CERN COURIER, from page 150 to page 155.)

LISTE DES EXPOSANTS

LIST OF EXHIBITORS

AEG-Telefunken, Anlagentechnik AG
APRA-NORM, Elektromechnik GmbH Daun
ATM Computer GmbH
M. BROCKSTEDT, Leiterplatten-Schnelldienst
DORNIER SYSTEM GmbH
EG & G GmbH ORTEC

ESN-Elektronik
F.u.G. Elektronik GmbH
GOSSEN GmbH, Mess- und Regeltechnik
HEINZINGER, Control & Measuring Instruments
INTERATOM GmbH
Knürr-Mechanik für die Elektronik AG
LAMBDA PHYSIK GmbH