

# People and things

and CERN. Lithium 11 decays through beta-delayed emission of tritons (M. Langevin).

Reflecting the growing contact between nuclear physics and quark physics, the meeting concluded with a session on quantum chromodynamics (QCD), the theory of quark interactions. The understanding of spin-orbit coupling, which governs the shell closures in nuclei, now finally can be understood from the fundamental interaction constant of QCD (K. Bleuler). The masses of nucleons follow from lattice calculations as presented by G. Schierholz.

The new relevance of QCD for nuclear physics revives the old dream of being able to deduce the masses of nuclei from one fundamental quantity — the coupling constant of strong interactions.

However this is not for tomorrow, and in view of the interesting and active nuclear physics programme presented at Seeheim, a continuation of the series of AMCO conferences is planned with AMCO-8 to be held in 1989. At AMCO-7 proposals were made to organize this meeting in Israel, Poland or the USA.

*From P. Armbruster and E. Roeckl.*

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## *On people*

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*The Soviet State Prize for Science and Technology has been awarded to the renowned field theory team of N. Bogolyubov, A.A. Logunov and D.V. Shirkov for their set of papers 'the renormalization group method in the theory of fields', written in the mid-1950s and which combined the use of perturbation theory with differential group equations.*

*Sidney Drell, deputy director of the Stanford Linear Accelerator Center and co-director of Stanford's Center for International Security and Arms Control is the recipient of a five-year award from the MacArthur Foundation.*

*Fermilab Director Emeritus Robert R. Wilson receives the Enrico Fermi*

*Award, the highest scientific honour of the US Department of Energy, for his 'outstanding contribution to physics, particle accelerator design and construction'.*

*Theorist Efim Samoilovitch Fradkin of the Lebedev Institute in Moscow recently celebrated his sixtieth birthday. His many contributions to quantum field theory and quantum statistical mechanics cover thirty years and have earned him widespread recognition. Corresponding Member of the Soviet Academy of Sciences, he has been awarded the USSR State Prize and the I.E. Tamm Prize.*

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*The US Department of Energy recently sent some of its officials to CERN to visit the UA1 experiment which has collaborators from Harvard, the University of California at Riverside and Wisconsin University. Left to right, Carlo Rubbia (CERN and Harvard) head of the UA1 experiment, Bernie Hildebrand (DOE), David Cline (Wisconsin) and James Rohlif (Harvard) are seen here in discussion at UA1.*



CERN Council President for 1985 is Wolfgang Kummer of Austria (right) seen here with outgoing President Sir Alec Merrison (UK). At the December Council session, tributes were paid to Sir Alec's skill in leading the work of Council over the past three exciting years.

(Photo CERN 211.12.84)

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## CERN Council

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At its December session, CERN Council elected Wolfgang Kummer of Austria as its President for 1985, succeeding Sir Alec Merrison of the UK, President since 1982. J. Rembser of West Germany was reappointed as Vice-President for 1985.

For the Scientific Policy Committee, D. H. Perkins of Oxford was elected Chairman for 1985, and K. Tittel of Heidelberg was reappointed as member for three years. J. Cronin of Chicago becomes a member of the committee for the next three years.

Within CERN, Roy Billinge was reappointed as Leader of the Proton Synchrotron Division for three years and Paolo Zanella reappointed Leader of the Data Handling Division for one year.

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## IUPAP elections

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The General Assembly of the International Union of Pure and Applied Physics (IUPAP) met in Trieste in October. At this meeting the People's Republic of China became a full member of IUPAP. Officers and members of the various IUPAP international commissions were elected for the next term of office (1985-87). The C11 Commission on Particles and Fields which was created in 1957 is responsible for sponsoring the major high energy physics conferences and is the parent body of the International Committee for Future Accelerators (ICFA). The 1985-87 membership of the C11 Commission is: I. Mannelli, Italy (and CERN) (Chairman); K. Strauch, USA (Harvard) (Secretary); M. Blazek, Czechoslovakia; A. Donnachie, UK; T. Fujii, Japan;



G. 't Hooft, The Netherlands; P. Lehmann, France; E. Lohrmann, West Germany; P. K. Malhotra, India; V. A. Matveev, USSR; W. K. H. Panofsky, USA; Zhao Zhou Guan, People's Republic of China.

The Executive Council of IUPAP also appointed as associate members to the C11 Commission B. Povh, West Germany, with the task of liaising with the Commission on Nuclear Physics; D. N. Schramm, USA, liaison with the newly created Commission on Astrophysics, and R. C. Shellard, Brazil, as representative of developing countries.

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## American Physical Society

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Last year, voting took place for the new Executive Committee of the Division of Particles and Fields of the American Physical Society. The new composition is: James Cronin (Chicago): Chairman, Stephen Adler (Princeton): Vice-Chairman, Gerson Goldhaber (Berkeley): Divisional Councillor, John Peoples, Jr. (Fermilab): Past Chairman, Maris Abolins (Michigan State), Gary Feldman (SLAC), Robert Palmer (Brookhaven), Chris Quigg (Fermilab), Jonathan Rosner (Chicago), Lawrence Sulak (Michigan), and Thomas Ferbel (Rochester): Secretary-Treasurer.

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## Meetings

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A NATO Advanced Study Institute 'New Vistas in Electro-Nuclear Physics' will be held in Banff, Alberta, Canada, from 22 August to 4 September. Applications to E. Tomusiak, Department of Physics, University of Saskatchewan, Saskatoon, Saskatchewan, Canada, S7N 0W0.

As mentioned in previous editions (see, for example, December 1984 issue, page 442), the 1985 International Symposium on Lepton and Photon Interactions at High Energies is being held in Kyoto from 19-24 August (further information from the Secretariat, Research Institute for Fundamental Physics, Kyoto University, Kyoto 606, Japan). In addition, a symposium celebrating the 50th jubilee of Yukawa's meson theory will be held, also in Kyoto, immediately beforehand. As well as surveying the developments of the past half-century, the symposium, which aims to attract 200 invited participants, will also look to future fundamental theories. Further information from the address above.

A conference on Computing in High Energy Physics will be held at Amsterdam, the Netherlands,

## Antiprotons 1984

After a break of more than a year, the CERN SPS Collider started operation at the end of September and when the last colliding protons and antiprotons were dumped on 20 December the integrated luminosity recorded for the period (a measure of the accumulated number of proton-antiproton collisions) attained 395 inverse nanobars ( $\text{nb}^{-1}$ ), compared with 153  $\text{nb}^{-1}$  during the historic run in Spring 1983 which discovered the  $Z^0$  particle and produced the first evidence for the 'top' quark.

From the start the energies of the colliding proton and antiproton beams were increased from 270 to 315 GeV as a result of the installation of water booster pumps, providing a new collision energy record of 630 GeV. The squeezing of the beams in the region of the experiments was also improved so that the combined effect even from the initial coasts gave luminosities above  $10^{29}\text{cm}^{-2}\text{s}^{-1}$ , rivalling the best levels of 1983.

In the initial month of the run, the accumulated luminosity marched steadily forward to the 50  $\text{nb}^{-1}$  level, with initial collision luminosities increasing to above  $2 \times 10^{29}\text{cm}^{-2}\text{s}^{-1}$ . A crop of power supply problems and other glitches hampered progress for a while, but by the eighth week the Collider was progressing again and the skill of the operating teams showed itself as initial luminosities bounded to over  $3 \times 10^{29}$ , reaching a record level of  $3.6 \times 10^{29}\text{cm}^{-2}\text{s}^{-1}$ , 2.3 times that of the 1983 run.

Despite improving the stability of the accelerating system, the luminosity lifetime

(the combined effect of proton and antiproton beam lifetime and emittance growth) was for most of the period no better than in 1983. Then, the consequences of a vacuum leak on a main ring dipole were realized and repaired. Later a resonant kick from the thyristors of the main power supplies transmitted through the main dipoles was eliminated. By the end of the period the luminosity lifetime was as high as 24 hours and increasing even to above 30 hours at the end of long coasts. With coasts lasting this long, the integrated luminosity per coast became regularly 15  $\text{nb}^{-1}$ .

The Antiproton Accumulator behaved remarkably well throughout the period and achieved a new record for stacking antiprotons with a maximum of  $3.8 \times 10^{11}$  and regularly achieving more than  $3 \times 10^{11}$ .

First tests on separating the beams in the unwanted crossing points were very successful with the beams behaving remarkably calmly as the protons and antiprotons were moved apart and then brought back again. This bodes well for the future operation with ACOL when six proton bunches will collide with six antiproton bunches and unwanted crossing points need to be avoided to keep the beam-beam non-linear tune spread within the available space of the tune diagram.

Some express data processing enabled physicists to keep score of interesting physics events, promising a good crop of results for the 1985 conference season and ensuring that CERN remains in the world physics spotlight.

University of Amsterdam and will be devoted mainly to three subjects: networking, embedded systems and vector and parallel processing. It may be regarded as a sequel to the conferences held in Padua, Italy, in 1983 and in Guanajuato, Mexico, in 1984. For further information please contact Ms. I. van der Velde, NIKHEF-H, PO Box 41882, 1009 DB Amsterdam, Netherlands.

The Sixth Workshop on Grand Unification is to be held at the University of Minnesota from 18-20 April. This will be the sixth in a regular series of workshops, the latest of which was held at Brown University in Providence, Rhode Island in April 1984. Topics will include grand unified theories and proton decay, supersymmetry, Kaluza-Klein Theories and cosmology.

Further information from the organizers, Serge Rudaz and Tom Walsh, Physics Laboratory, University of Minnesota, 116 Church Street S.E., Minneapolis, Minnesota 55455, USA.

The 1985 CERN/Joint Institute for Nuclear Research (JINR, Dubna, USSR) School of Physics, the ninth in the series, will be held from 1-14 September at Urbino, Italy. The basic aim of these schools is to teach various aspects of high energy physics, especially theoretical, to young experimentalists drawn mainly from CERN and JINR Member States. Further information from Miss D. A. Caton, Scientific Conference Secretariat, CERN, 1211 Geneva 23, Switzerland, or Mrs. T. S. Donskova, Joint Institute for Nuclear Research, PO Box 79, Head Post Office, 101000 Moscow, USSR.

from 25-28 June. It is jointly organized by the section H of the Netherlands National Institute for Nuclear

Physics and High Energy Physics (NIKHEF-H) and the Computer Science Department (FVI) of the