

People and things

enormous progress achieved in recent years in understanding and developing calorimetric techniques.

The large number of ongoing projects and the encouraging progress in this field, mainly under the pressure to define the experimental programme at the LHC and the SSC, led to the decision to continue the series of Conferences on an annual basis (the first meeting was held last year at Fermilab). Applications are open to host the future meetings.

The Capri meeting was organized by A.Ereditato (Napoli), P.Jenni (CERN), V.Palladino (Napoli) and A.Para (Fermilab) with the support of the Italian INFN and University of Napoli. Some 120 participants attended.

Thermal detectors: Initial results

Thermal detectors are widely regarded as being likely to contribute to new precision physics, and many groups in Europe, USA and Japan are presently developing examples such as superheated superconducting grains, superconducting tunnel junctions and bolometers (September 1988, page 23).

Especially popular is the latter, using as detector a pure diamagnetic and dielectric crystal. Its heat capacity at low temperature (proportional to the cube of the ratio between operating and Debye temperatures) can become so small that even the tiny amount of energy left by a particle causes a rise of temperature measurable by a suitable thermistor.

The technical development of these detectors has been impressive over the last years and an ex-

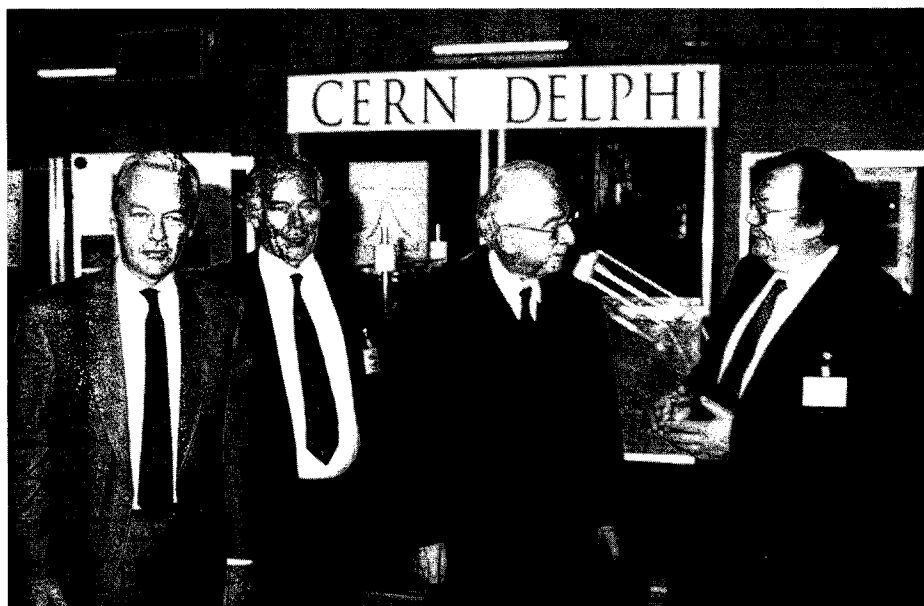
periment using this technique has contributed new limits on neutrinoless double beta decay (see page 14), in this case tellurium-130 going to xenon-130. The experiment, by a Milan team (University and INFN) led by Ettore Fiorini, began in August in the Italian Gran Sasso underground Laboratory.

The detector/source is a 35 gram crystal of tellurium oxide operating at about 20 millikelvin in a dilution refrigerator specially made with previously tested low radioactivity materials.

No sign of neutrinoless double beta decay has been found with a lower limit for the half-life of more than 3×10^{20} years after only 500 hours of effective running time, extending the previous limit by almost two orders of magnitude.

Italy's President Francesco Cossiga visited CERN on 25 October. At the Delphi underground experimental area at LEP were (left to right) Delphi spokesman Ugo Amaldi, CERN Council President Sir William Mitchell, President Cossiga, and CERN Director General Carlo Rubbia.

(Photo CERN HI 43.10.91/13)



On people

William Happer, formerly at Princeton, has become Director of the Office of Energy Research in the US Department of Energy, the government department funding most of the US particle physics programme. He takes over from Deputy Director James F. Decker, who had been Acting Director. Dr. Happer also becomes Science and Technology Adviser to Energy Secretary James D. Watkins.

Emilio Picasso of CERN receives one of this year's prestigious Italgas Prizes for Research and Innovation awarded to European Community scientists. As Director of CERN's 27-kilometre LEP ring construction project, his work was of 'historical importance', the citation reads.

Robert Cahn becomes Director of the Physics Division at the Lawrence Berkeley Laboratory, enabling Piermaria Oddone to act full time as the Laboratory's Deputy Director.



The Continuous Electron Beam Accelerator Facility

CAREER OPPORTUNITIES IN ACCELERATOR PHYSICS AND ENGINEERING

CEBAF, the Continuous Electron Beam Accelerator Facility, is managed and operated for the U.S. Department of Energy by SURA (Southeastern Universities Research Association). The project is proceeding on cost and schedule (60% complete, 75% obligated), and is scheduled to start beam delivery in mid-1994 for an international user community that to date has submitted proposals requesting beam time in excess of that available in the first few years of operation. Early in 1995 the full capability for simultaneous delivery of beam to three user end stations will be established.

CEBAF's scientific mission is the investigation of strongly interacting matter at the quark-gluon level, i.e., the study of the nature of quark and gluon confinement, and the development of a quark-gluon picture of the nucleons and nuclei.

To meet these objectives CEBAF is building a cw, high-current, high beam quality, 4 GeV electron accelerator serving three fixed-target end stations simultaneously. The accelerator is designed in a way that anticipates the future upgrade needs of a vital research program, and is the first large-scale application of rf superconductivity and the only large accelerator to depend entirely on it. The design incorporates many other state of the art features, particularly in accelerator physics, precision rf control in a heavily beam-loaded regime, large scale 2K refrigeration, and large (70K I/O points) control systems.

All project phases, from physics design through construction into operations and eventual improvements, in all accelerator disciplines including rf superconductivity, are the responsibility of CEBAF's Accelerator Division. The division has a strong and talented leadership team in place. To further strengthen, it particularly in response to the needs of the increasingly important commissioning activities and new opportunities in the context of technology transfer, the following positions will be filled.

- **Head, Machine Operations Department** Reporting to the the Associate Director for Accelerators and Head of the Accelerator Division, the incumbent will lead a team expected to grow to approximately 50 professionals in the tasks of beam performance verification, procedure development, machine commissioning, experimental and routine operation, beam development, user interaction, scheduling, and the scoping of improvement programs. The successful applicant has a keen sense of the requirements of responsible conduct of operations, is committed to the highest standards in ES&H, measures job accomplishments by how well she/he serves the user's needs, and is an accomplished accelerator physicist or engineer. Ph.D. in physics or EE or equivalent experience required.
- **Deputy Department Heads (2)** Two senior scientist/engineer positions serving as deputies to the heads of the Linac and the Arcs Departments are open. The Linac Department is responsible for rf systems, cryogenic systems, the injector(s), and the control system. It also is the technical focus of proposed technology transfer activities centering on the development of a CEBAF-based two-color, high-power FEL industrial user facility. The Arcs Department is responsible for the over 2000 magnets, their power supplies, supports, survey and alignment, the room temperature vacuum system, and beam diagnostics. Department heads and their deputies are fully responsible both for the management of their organizational units and all project elements falling under their purview. Required for these jobs is a Ph.D. in physics or a relevant engineering discipline, or equivalent experience. A combination of technical excellence and astute managerial capabilities is asked for. Experience in a high technology environment and experience in design, commissioning, trouble shooting, and operation of complex systems are essential.
- **Assistant Division Head** This is a staff position assisting the Associate Director for Accelerators. The job includes fact finding and analysis in technical, scientific and, to a lesser extent, administrative matters; the preparation of briefings for a wide variety of audiences for written submission or oral presentation; the development of long-term plans and strategies; and interfacing with a large number of in-house and outside contacts. The job requires the ability to produce quality work under pressure, the capacity of faithful, factual communication, and the willingness to adapt, develop, and change the style of presentation as required by the target audience. An advanced degree, preferably a Ph.D. in a relevant field of science or engineering, and the mastery of standard English are expected.
- Additional rewarding and challenging jobs for accelerator engineers and physicists are currently open on various levels of seniority.

Interested persons send their resumé to:

Christoph Leemann, Associate Director
CEBAF Center, MS 12A
12000 Jefferson Avenue
Newport News, VA 23606

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Yakir Aharonov of the Universities of Tel Aviv and South Carolina (Columbia) and David Bohm of London (Birkbeck) share the Elliott Cresson Medal of Philadelphia's Franklin Institute for their 1956 prediction of the quantum mechanical effect which now bears their names.

Trieste centre awards

This year's Dirac Medals awarded by the International Centre for Theoretical Physics (ICTP), Trieste, have been awarded to Jeffrey Goldstone (MIT) for 'his fundamental clarification of the phenomenon of spontaneous symmetry violation in relativistic field theory', and to Stanley Mandelstam (Berkeley) for his analytic formulation of scattering amplitudes and for his seminal work on the quantization of string theories.

Earlier this year, Sidney Coleman of Harvard received from ICTP Director Abdus Salam the Dirac Medal he was awarded in 1990 (when the other recipient was L.D. Faddeev of Moscow). At the same ceremony, a special ICTP Medal was awarded to Claudio Villi in recognition of his contribution to the development of scientific activities at the Trieste institutes. From 1970-75 he was President of the Italian INFN, and from 1977 has been President of the Consortium for Physics of the University of Trieste.

Berkeley/Oakland Fire

The blaze which swept through the Berkeley/Oakland hills to the east of San Francisco Bay on 20 October went on to devastate 2,000 homes. 24 people lost their lives.

The nearby Lawrence Berkeley Laboratory was never in danger, but 50 Lab employees lost their homes.

More muons for ISIS

The pulsed muon facility at the UK Rutherford Appleton Laboratory's ISIS neutron source is to be substantially upgraded under the European Commission's Large Installations Plan. The existing ISIS muon beamline and spectrometer, built four years ago, will be split into three. Construction should be complete by Spring 1993, and will be followed by a two-and-a-half year EC-sponsored scientific programme.

This new boost for ISIS muons follows an upgrade covered by an agreement drawn up last year with the Japanese Institute for Physical and Chemical Research (RIKEN), Tokyo.

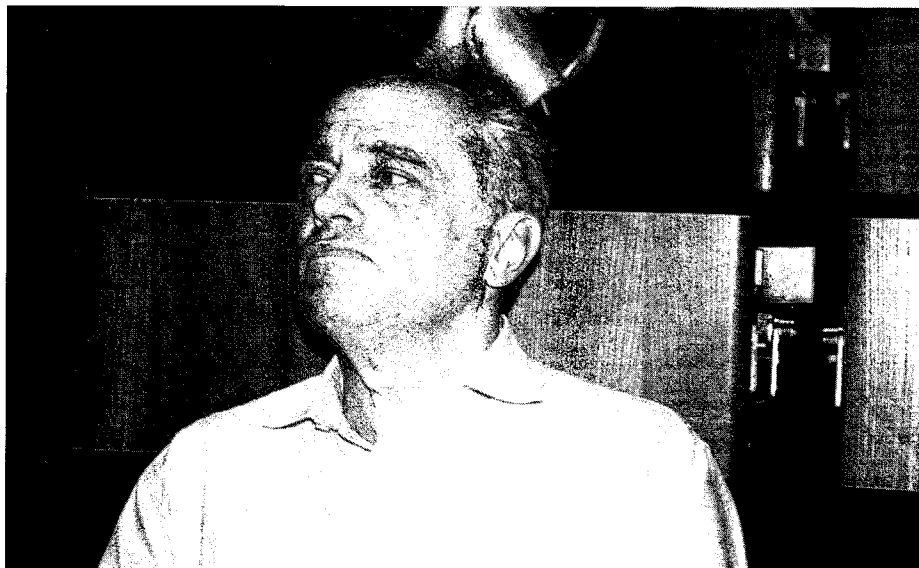
CERN-Australia cooperation

On 1 November at CERN, Australian Ambassador to Switzerland

John Brook and CERN Director General Carlo Rubbia signed a co-operation agreement which provides a framework for Australia and CERN to develop reciprocal scientific and technical cooperation. Australian specialists will be able to participate in CERN research projects, and the Australian government has also expressed its interest in participating in future major CERN programmes, such as the LHC collider.

Australia thus joins Brazil, Bulgaria, Chile, Czechoslovakia, Hungary, India, Israel, Romania and the Soviet Union in the list of countries having signed a cooperation agreement with CERN. An agreement has also been signed with the Chinese Academy of Sciences.

Distinguished theoretician Daniele Amati is leaving CERN after a long career in the Theory Division to become Director of Trieste's International School for Advanced Studies (Italian acronym SISSA).



Meetings

Cyclotrons '92, the 13th International Conference on Cyclotrons and their Applications, will be held in Vancouver, Canada, from 6-10 July, sponsored by IUPAP and hosted by TRIUMF. Further information from Maureen Iqbal, Cyclotrons '92, TRIUMF, 4004 Westbrook Mall, Vancouver, BC, Canada, V6T 2A3. Fax (604) 222-1074. E-Mail (Bitnet) CYC92 at TRIUMFCL ; (Internet) CYC92 at ERICH:TRIUMF.CA ; (Hepnet) 45387::CYC92 or ERICH::CYC92

From 26 May – 4 June next year a Summer School on Quantitative QCD Phenomenology is being organized by the CTEQ Collaboration (Coordinated Theoretical/Experimental Project on Quantitative QCD Phenomenology and Tests of the Standard Model). Further information from C.M. Sazama, Fermilab, P.O.Box 500, Batavia, IL 60510, USA, Fax 708-840-3867, e-mail SAZAMA at FNAL

The subject of the 1992 Gordon Research Conference, to be held from 13-17 July next year at Proctor Academy, Andover, New Hampshire, is 'Particle Physics in the 90s'. Further information from C.M. Sazama, Fermilab, P.O.Box 500, Batavia, IL 60510, USA, Fax 708-840-3867, e-mail SAZAMA at FNAL

Theory up in smoke. Rather than profit from the long hot summer, CERN's Theory Division perversely insists on arranging its picnic to coincide with the onset of autumn wind and rain. Sensibly clad picnickers enjoy the warmth, as well as the produce, of the barbeque.

(Photo Guillermo Zemba)



The 1992 (17th) Meeting of the Division of Particles and Fields of the American Physical Society (Particles and Fields 92) will be held at Fermilab from 10-14 November. Further information from C.M. Sazama, Fermilab, P.O.Box 500, Batavia, IL 60510, USA, Fax 708-840-3867, e-mail SAZAMA at FNAL

▲ Together in Budapest for the centenary of the Eotvos Society (Hungarian Physical Society) on 18-19 October were distinguished expatriate Hungarian physicists Val Telegdi (left) and Edward Teller.



Going up and up

The 100.57 metre-high staircase of LEP pit 6 (which houses the Opal experiment) was climbed a hundred times on 31 October by Francois Siohan, 50, who translates from English much of the material for the French edition of the CERN Courier.

His total time of just under eight hours for the vertical ten-kilometre climb must be some kind of record,

making the Opal staircase one of the fastest vertical tracks in the world. (The total exploit, including time spent going down in the elevator, took more than ten hours).

The previous month, Siohan cycled fourteen times up and down the nearby Jura mountains, taking just under 11 hours to climb the same distance (total time just over 14 hours including descents). Thus the LEP stairs are a more efficient way of climbing, but he finds the view from the Jura much better.

Beauty baryon in UA1 muon data

As this issue was going to press, the UA1 collaboration at CERN's proton-anti-proton collider, which finished taking data last year, announced evidence for baryon (heavy proton-like particle) containing the fifth ('beauty') quark.

High energy proton-anti-proton collisions are a prolific source of such particles. In 1986 the big UA1 experiment reported evidence for neutral B meson mixing, however seeing individual particles was difficult because of the clutter of the collisions. That the particle has only now been seen in data taken several years ago reflects the difficulty of extracting a clear signal.

In an analysis of a sizable chunk of 1988-89 UA1 muon data, when the

detector ran without an electromagnetic calorimeter, the group looked for a neutral baryon containing a beauty quark (a lambda-b particle) through its decay into a J/psi and an ordinary lambda baryon (containing a strange quark).

The J/psis are identified through oppositely-charged muon pairs, while the lambdas are found through their decays into a proton and a negative pion. 16 ± 5 candidate lambda-bs are found with a mass of $5640 \pm 50 \pm 30$ MeV.

Interest in b-quark physics is growing because of the sizable signals expected in the next generation of proton colliders – the US Superconducting Supercollider (SSC) and the LHC in CERN's LEP tunnel.

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On 8 November, Bjorn Wiik of DESY gave the traditional John Adams Memorial Lecture at CERN. He delivered a status report on the HERA electron-proton collider now being commissioned at DESY, Hamburg. Following first collisions between 12 GeV electrons and 480 GeV protons (November, page 20), the electron energy has been increased towards the design level of 30 GeV.

TRIESTE Funding crisis

As the CERN Courier went to press, the International Centre for Theoretical Physics (ICTP) in Trieste was going through a painful funding crisis.

Set up in 1964 by Abdus Salam under the auspices of UNESCO and the International Atomic Energy Agency, ICTP has in recent years been mainly funded through the generosity of the Italian Government.

While awaiting confirmation of similarly generous long-term Italian support to last until the end of 1998, the rollover of the interim funding ran into difficulties. An altruistic and timely interest-free loan from the Islamic Republic of Iran will help tide things over.

ICTP is a focus for scientists from developing countries, and has established itself as a major world research centre in its own right. At the beginning of November, a Trieste plea for support drew overwhelming response from scientists and ICTP admirers throughout the world.

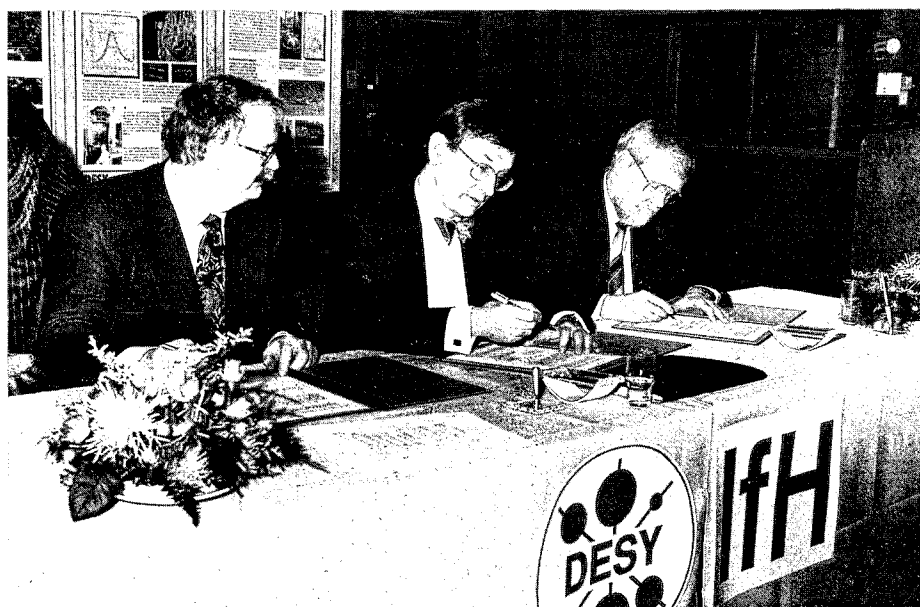
Hopefully the interim funding hiatus will be speedily resolved.



On 11 November an agreement was signed establishing the Institut für Hochenergiephysik, Zeuthen (formerly East Berlin) as a formal part of the DESY Laboratory in Hamburg from 1 January 1992. Signing the agreement were (left to right) – Leon Hajen, Senator for Science and Research in the regional Hamburg administration; Federal Research Minister Heinz Riesenhuber; and Hinrich Enderlein, Minister for Science, Research and Culture in the regional Brandenburg administration.

DESY finance has always been split between the Federal government (90%) and Hamburg (10%). The pattern continues with the two regional administrations contributing ten per cent of the budgets of the respective research centres, henceforth under an overall DESY umbrella (October, page 13).

(Photo DESY)





SSC Laboratory

Superconducting Super Collider Laboratory

We're about to change the way we look at the universe.

The SSCL, located just south of Dallas, Texas, is rapidly moving to become the premier center of particle physics research in the world. Major activities at the SSCL include design and construction of the 20 TeV proton collider and its associated complex of accelerators and detection apparatus as well as research in particle physics.

As part of the SSC Laboratory team of scientists, engineers and computer scientists, you'll be doing work which will have incalculable consequences for the future of science and technology, as well as the growth of human knowledge.

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We seek an exceptional scientist with management experience to provide strong leadership as Division Head of the newly established Computing Division. The Computing Division, at the forefront of scientific computing hardware and software, provides leadership, guidance and planning for scientific computing policy and environments; develops, operates and maintains central computing resources, support operations of distributed facilities and establishes/maintains the laboratory computer networking system. The Division Head should have experience with currently available mainframes & workstations, as well as UNIX, VMS and PC operation systems. Additionally this Division will do research and development in computing methodology, techniques and software relevant to the anticipated needs of its users. Division staff will be the contact points for joint development projects with industry and university groups. The Division Head, reporting to the Laboratory Director, will manage and lead a current staff of 75 people which is expected to increase to 100+ over time.

The Superconducting Super Collider invites applications from outstanding candidates with an advanced degree, preferably a PhD in Physics or Computer Science, who have had significant experience with computing as practiced in a particle physics research environment, along with management and supervisory experience.

To Apply: Send Complete Resume and Salary History

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Mail: SSC Laboratory
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MS-2050 / 3438-LB
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As always the SSCL strongly encourages minorities and female candidates to apply.

UNIVERSITY OF GLASGOW

Department of Physics & Astronomy

Research Assistant in Experimental Particle Physics

The Experimental Particle Physics Group of the University of Glasgow has a vacancy for a Research Assistant to work on the ZEUS experiment, now being installed at the DESY HERA electron-proton collider. The Glasgow ZEUS group has been working in a number of areas: we have constructed transition radiation detector modules for electron identification, and are working on the use of these and of information from the tracking detectors for physics analyses. The group is also active in HERA Physics studies.

For the first year, the post is funded by the European Community, and is intended for nationals for European Community countries outside the United Kingdom. There will be an opportunity for extension for up to an additional three years. The superannuable post is on the Research 1A scale. The salary will be in the range £12690 to £15481 per year, depending on age and qualifications. Applicants will probably have or expect soon to receive a PhD in experimental particle physics or a related field. A starting date in late 1991 or early 1992 is desired.

For further information, please write to

Prof. D.H. Saxon
Department of Physics & Astronomy
University of Glasgow
Glasgow G12 8QQ
Scotland

Tel. : +44-41-330-4673 Fax : +44-41-334-9029
Computer mail : SAXON@UK.AC.GLA.PH.11

Applications should be sent to the same address, enclosing a curriculum vitae and list of publications, together with the names and addresses of two referees.

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STIPENDIEN FÜR DOKTORANDEN und POSTDOKTORANDEN

an besonders befähigte Bewerber zu vergeben.

Arbeiten werden vergeben im Rahmen von Experimenten in den Forschungszentren CERN und DESY (Hadron-Hadron-Wechselwirkungen bei hohen Energien, Elektron-Proton-Streuung und Elektron-Positron-Annihilation im Bereich der Υ -Resonanzen). Themenbereiche für theoretische Arbeiten sind: Quantenchromodynamik, Struktur der Hadronen, schwache Zerfälle, B-Physik, CP-Verletzung, Modelle für Hadronen und Quantisierung von Yang-Mills-Theorien.

Stipendien können zu folgenden Terminen bewilligt werden : Doktoranden 01.01.92, 01.04.92, 01.10.92 und 01.04.93; Postdoktoranden 01.01.92 und 01.01.93. Die Bewerbungsfrist für den ersten Termin endet am 15.12.91, für alle weiteren einen Monat vor dem Termin.

Bewerbungen mit Lebenslauf, akademischen Zeugnissen und zwei Gutachten sind zu richten an den Sprecher des Kollegs :

Prof. Dr. H. Kolanoski

Institut für Physik

Universität Dortmund

Postfach 50 05 00, 4600 Dortmund 50

Tel. 0231 / 755-3550 E-Mail : UPH026 at DDOHRZII

Faculty Position in Experimental Particle Physics Indiana University

The Department of Physics at Indiana University invites applications for a tenure track faculty position in **Experimental Particle Physics** expected to start in Fall 1992, subject to funding approval. The appointment is authorized at the **Assistant Professor** level. The applicant should demonstrate outstanding potential for leading a research program and for teaching at both the undergraduate and graduate levels.

The present High Energy Physics group has an active program at BNL, CERN, FNAL, and the SSC. At Brookhaven National Laboratory the group is playing a leading role in the construction of a major new experiment (E852) in precision meson spectroscopy including searches for hybrid and glueballs, using an upgraded MPS. The Indiana group is constructing a 3000 element lead glass array. The MPS upgrades also include a CsI barrel veto, new chambers and a Cherenkov counter. At CERN we are members of the OPAL collaboration, working on the silicon microvertex detector and on a forefront offline analysis facility utilizing RISC processors that access data via a high-speed network (UltraNet). Physics interests include electroweak interactions and heavy quark physics, especially B decays. LEP will be the premier accelerator to study the Bs. The Fermilab program includes a running fixed target dimuon spectrometer, E672, and participation in the DO detector on the Tevatron collider. The DO group is working on the muon system and offline analysis, with emphasis on central tracking. We are members of the Solenoidal Detector Collaboration (SDC) at SSC and are working on both hardware development and computer simulation for a wire chamber tracking system.

To apply, please send a complete vita (including a description of research interests, accomplishments, and a list of publications) as well as the names and telephone numbers of at least three references to be sent to :

**Chairman, High Energy Physics Search Committee
Physics Department
Indiana University
Bloomington, IN 47 405**

Applications must be received by January 15, 1992. Indiana University is an equal opportunity/affirmative action employer.

UNIVERSITY OF CALIFORNIA, RIVERSIDE Faculty Position in Experimental High Energy Physics

The Department of Physics at the University of California, Riverside, expects to make a faculty appointment in the area of experimental high energy physics on or after July 1, 1992. This tenure-track appointment will be at the level of Assistant Professor. The department is seeking candidates with outstanding research records and strong commitment to teaching. The individual appointed will be expected to join, for the near term, the ongoing Riverside research program in high energy proton-proton and proton-antiproton collisions. Please send a resume and arrange to have at least three letters of recommendation sent to

**Chair, Search Committee
Experimental High Energy Physics
Department of Physics
University of California, Riverside
Riverside, California 92521**

The deadline for receiving applications will be February 29, 1992. Any applications received after this date will be considered only if an appointment is not made from the original pool.

The University of California, Riverside, is an Equal Opportunity, Affirmative Action Employer. Minority and women candidates are encouraged to apply.

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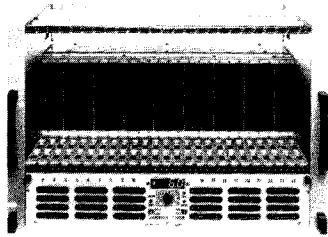
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Nina Ruderman, **CERN COURIER**
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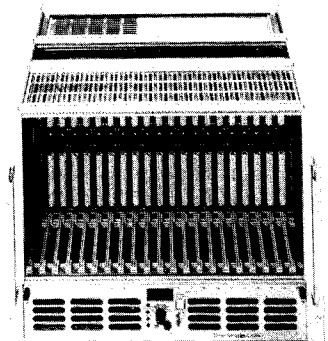
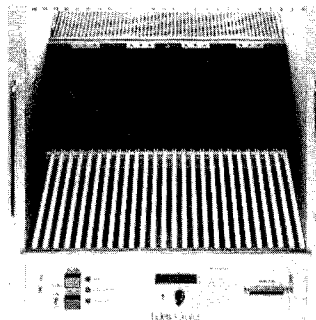
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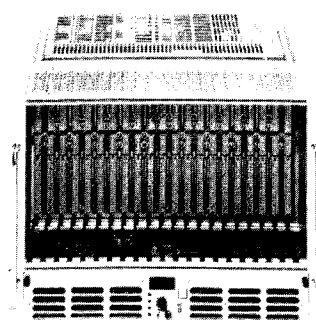
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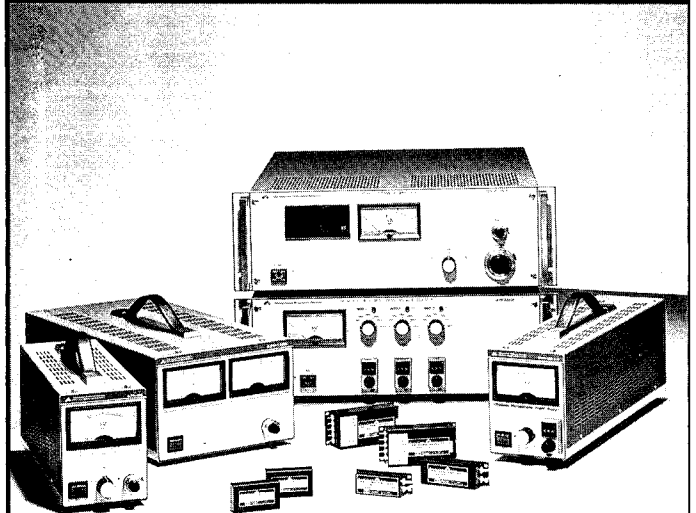
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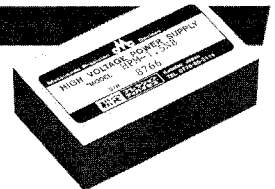
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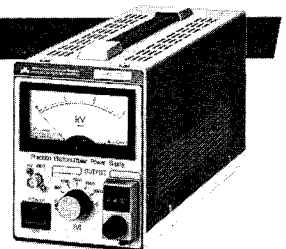
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UNIVERSITY LECTURERSHIP IN EXPERIMENTAL PARTICLE PHYSICS

in association with Balliol College

Applications are invited for the above post to be held in the Department of Physics with effect from 1st October 1992. Stipend according to age on the scale £12,860–£25,343 per annum. The successful candidate may be offered a tutorial fellowship by Balliol College, for which additional emoluments would be available. Further particulars (containing details of the duties and full range of emoluments and allowances attaching to both the university and the college posts) may be obtained from Prof. R. J. Cashmore, Particle and Nuclear Physics, Keble Road, Oxford, OX1 3RH.

The present experimental research programme of the Particle and Nuclear Physics Laboratory includes experiments with the DELPHI detector at LEP (CERN) and ZEUS detector at HERA (DESY); the SOUDAN 2 experiment on proton decay; measurement of neutrino mass; the Sudbury solar neutrino project; development of cryogenic detectors. The Department would expect the appointee to participate in some of the above programmes, or develop new initiatives associated with future accelerator projects.

Applications (8 copies except in the case of overseas candidates when only one is required) should be sent to arrive no later than 15th January 1992. These should include a curriculum vitae, list of publications, a statement of research interests and teaching experience and the names of three referees. Referees should be asked to send references direct to Professor Cashmore to arrive by the above date.

Shortlisted candidates will be interviewed in Oxford on 2nd and 3rd March 1992. All applicants are asked to indicate a telex, fax, email or telephone number where they can be contacted during the period 15th February to 27th February.

UNIVERSITY LECTURERSHIP IN THEORETICAL PHYSICS

in association with Brasenose College

Applications are invited for the above post to be held in the Department of Physics with effect from 1st October 1992, particularly from candidates with research interests in the general areas of Elementary Particle/Field Theory or Condensed Matter Theory. The stipend will be according to age on a scale which is currently £12,860–£25,343 per annum. The successful candidate may be offered an Official Fellowship and Lecturership at Brasenose College, for which additional emoluments and benefits would be provided. Further particulars may be obtained from Prof. D. Sherrington, Theoretical Physics, 1 Keble Road, Oxford OX1 3NP, (Tel (0865) 273952, FAX (0865) 273947, Telex 83295 NUCLOX G, Email SHERRNGTN@PH.OX.AC.UK).

Applications (8 copies except in the case of overseas candidates when only one is required) should be submitted to Prof. Sherrington by 13th January 1992. These should include a curriculum vitae, list of publications, a brief statement of research interest/plans and teaching experience, together with the names of three referees, who should be asked to send references directly to reach Prof. Sherrington by the above date.

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Duke University

Faculty Position in Experimental Particle Physics

The Department of Physics at Duke University plans to fill a tenure-track faculty position at the level of assistant professor in experimental particle physics, starting in the fall of 1992. Candidates should have a strong research record in the field. Duke's program in particle physics are well established. One program is part of the CDF collaboration, having recently completed a collider experiment looking for a quark-gluon plasma. Another program works on fixed target physics, studying B meson production at the Tevatron. Members of the group are actively working, as part of SDC, on instrumentation for the SSC. The personnel include four tenure-track faculty and one research faculty, three other postdoctoral staff, and six graduate students. The program is supported by an active and growing theoretical group. Applicants should send a resumé, and arrange for three letters of reference to be sent, to **Professor A.T. Goshaw, Particle Physics Search Committee, Department of Physics, Duke University, Durham, NC 27706.**

*Duke University is an Equal Opportunity Employer
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BROOKHAVEN NATIONAL LABORATORY PHYSICS DEPARTMENT

The High Energy Physics Theory Group at Brookhaven National Laboratory invites applications for several postdoctoral research associate positions and for one junior staff position. The positions may be taken up on or about October 1, 1992. Current research concentrations within the Theory Group are in the areas of electroweak interactions, lattice gauge theory, field theories at nonzero temperature, and density and collider phenomenology.

Applicants should send a curriculum vitae and arrange to have three letters of reference sent to: Dr. William J. Marciano, Box CC, Physics Department, Bldg. 510A, Brookhaven National Laboratory, Upton, NY 11973-5000.

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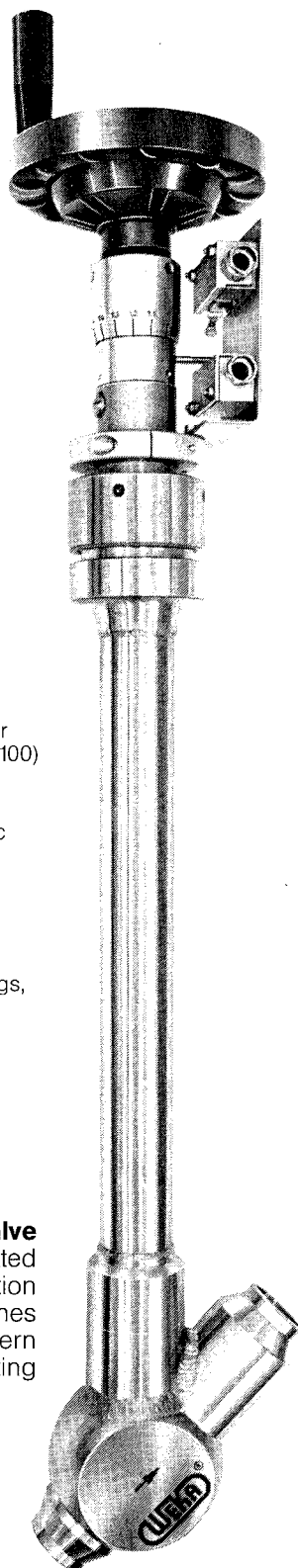
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In Trieste, Italy, the Sincrotrone Trieste is building ELETTRA, a "third generation" machine, with a state-of-the art storage ring for 1.5-2GeV electrons. It will be a high brilliance synchrotron radiation source, which covers a large spectrum of wavelengths from the VUV to the X-ray region. Financing of Elettra is shared by Italian Government, Research Area of Trieste and Regional Administration. The goals of this facility are to support scientists in the implementation of fundamental and applied research on the structure of condensed matter in fields such as Physics, Chemistry, Biology, Medicine, Crystallography, Surface and Material Science.

The Scientific Division of Sincrotrone Trieste is organizing a **competitive tender for the Beamlines Control System Software**. We are looking for an European company with experience and knowledge in:

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If you are interested, please contact us in Trieste and we shall provide you with a questionnaire and further information:

Mrs. G. Cherini

Scientific Division Sincrotrone Trieste

Padriciano 99 34012 Trieste Italy

Deadline for returning the questionnaire: 20.01.1992.

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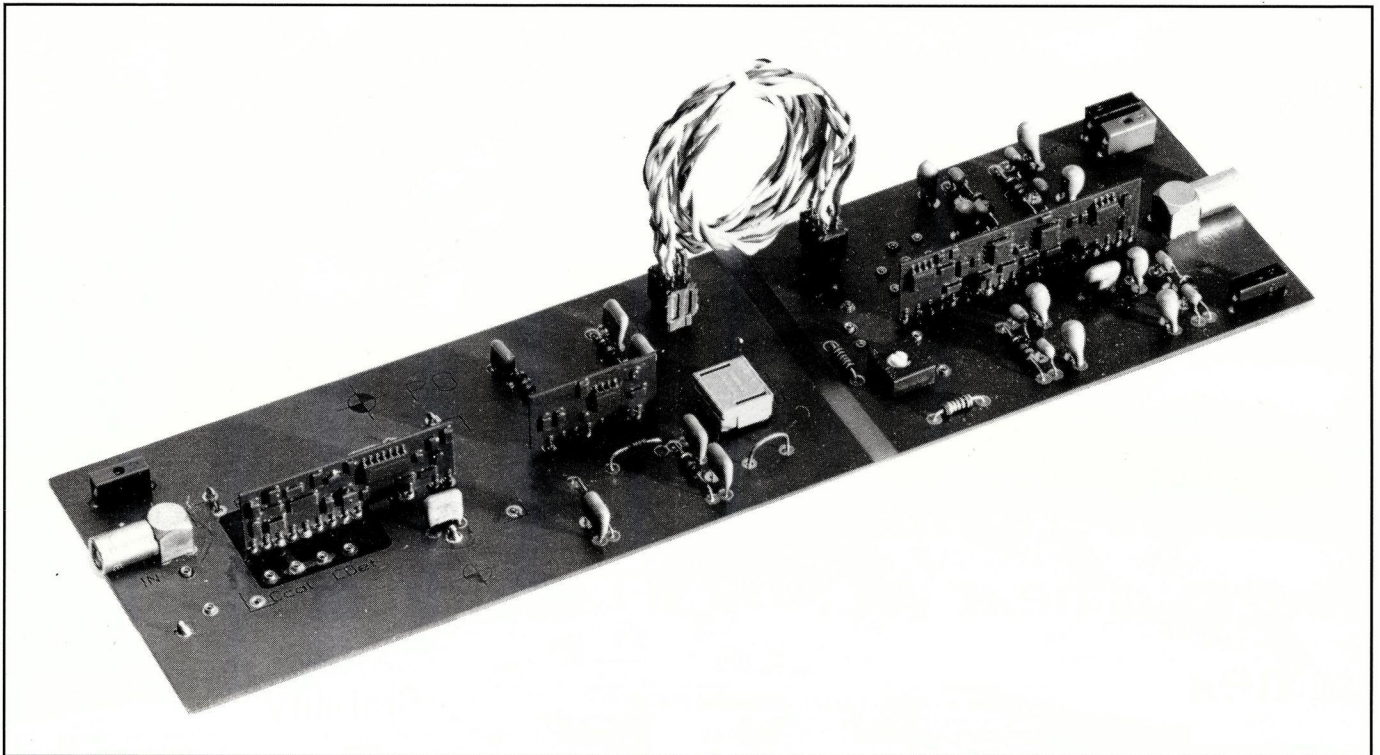
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Inquiries for the rest of the world: please see page III.

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