

People and things

monopoles. Although this work was not initially fruitful, magnetic monopoles now play a special role in revolutionary new physics thinking, as described by Olive, a pioneer of this new approach. Atiyah displays the significance of the Dirac equation in modern geometry, again touching on the new developments.

Edwin Hubble - Mariner of the Nebulae, by Gale E. Christianson, Institute of Physics Publishing, 0 7503 0423 5

In the 1920s, Edwin Hubble used the mighty 100-inch telescope on Mount Wilson to spearhead another Copernican revolution, showing that the visible Universe is much larger than the Milky Way, and that distant galaxies recede with velocities proportional to their remoteness - the 'Hubble expansion'. Hubble's multifarious talents as a sportsman, soldier and lawyer have over the years been embellished by fertile imaginations. Christianson's book, using hitherto untapped sources, rounds out the story of Hubble the man and burnishes the legend.

Books received

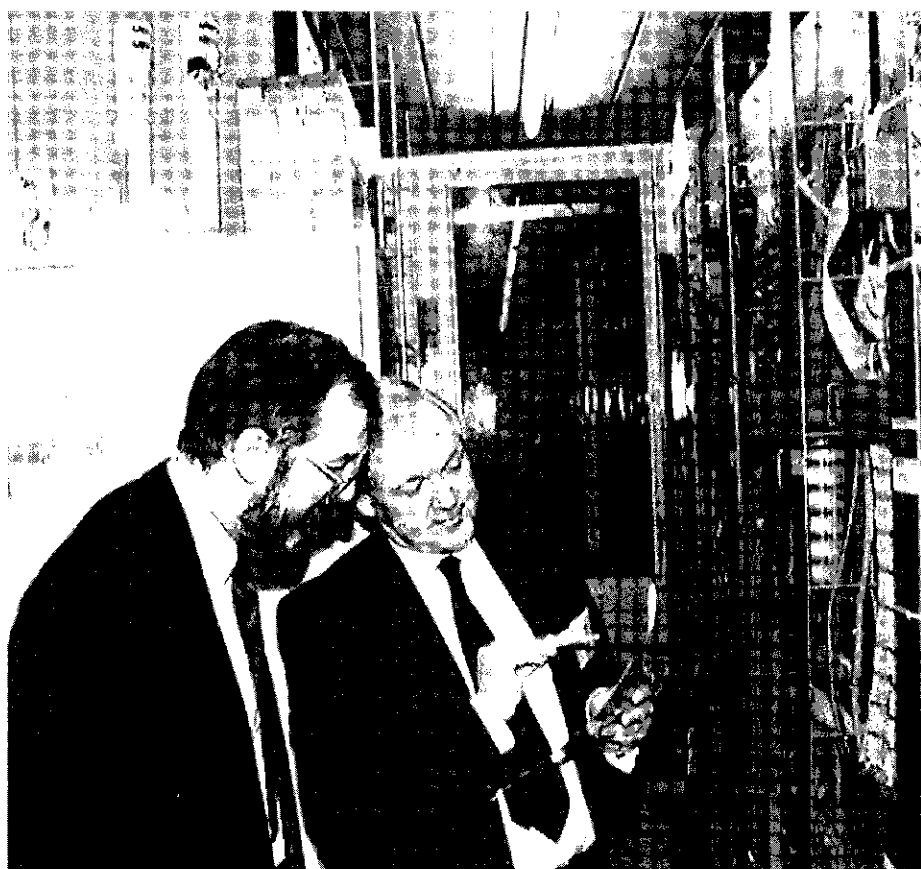
Mathematical Methods for Physics and Engineering, by K.F. Riley, M.P. Hobson and S.J. Bence, Cambridge University Press, 0 521 55506 X (hbk £59/\$110) 0 521 55529 9 (pbk £17.95/\$49.95)

A 1,000-page volume with worked examples and exercises

Group Theory in Subnuclear Physics, by Fl. Stancu, Oxford Science Publications, 0 19 851742 4 (£75)

Elements of Group theory; permutation, Lie, orthogonal, Lorentz and unitary groups, gauge groups, and quark applications.

UK Minister of Science, Energy and Industry John Battle (left) with Aleph experiment spokesman Peter Dornan of London's Imperial College at CERN on 23 February.



First collisions in DAFNE

Very soon after the completion of construction of the DAFNE electron-positron collider at the INFN National Laboratory in Frascati and injection of its first electrons (December 1997 page 12), comes the first single bunch electron-positron collisions with luminosities of the order of a few times 10^{28} per sq cm per s, which is already ten times that achieved at the same energy with Frascati's pioneer ADONE ring. In these early collisions, the DAFNE beam current was a few milliamps - more than 40 milliamps have been achieved with single beams. DAFNE has a design luminosity of 5×10^{32} at the phi resonance (1.02 GeV).

Scientists and representatives from the German Federal Ministry of Education, Science, Research and Technology (BMBF) attended a colloquium to mark the retirement of distinguished DESY scientist Paul Söding (centre), Head of DESY's branch institute in Zeuthen, Brandenburg (Berlin). Among them were DESY Director Bjørn Wiik (left) and CERN Council President Hans Eschelbacher (right).

(Photo Petra Folkerts)



On people

Hermann Grunder, Director of the Jefferson Laboratory, Newport News, Virginia, (formerly known as the Continuous Electron Beam Accelerator Facility - CEBAF) has been named 1998 Outstanding Scientist in the state of Virginia.

Paul Söding retires

Distinguished scientist Paul Söding, Head of DESY's branch institute in Zeuthen, Brandenburg (Berlin), and professor of experimental physics at Hamburg and at Humboldt University, Berlin, retired on 1 March. As a long-standing DESY Research Director and as a scientist, Söding has contributed significantly both to physics and to science administration.

Born in 1933 in Dresden, Söding studied at Hamburg and Munich. When high energy physics research was initiated in Hamburg, he joined pioneer bubble chamber experiments. After several periods at CERN,

Berkeley and Cornell, he became a Leading Scientist at DESY.

With the advent of the PETRA electron-positron accelerator, Söding played a key role in the construction and exploitation of the TASSO detector, where the first direct evidence for gluons was seen in 1979. For this historic discovery, he was one of the four 1995 recipients of the European Physical Society's prestigious High Energy and Particle Physics Prize.

As DESY Research Director from 1982 - 91, Söding led preparations for and construction of the HERA electron-proton storage ring and its collision experiments H1 and ZEUS, surmounting many obstacles.

When the former Institute for High Energy Physics of the East German Academy of Sciences in Zeuthen became a branch institute of DESY in 1992, he played an important role in its integration into DESY. An independent programme of elementary particle physics is now carried out in Zeuthen in close collaboration with DESY, CERN and other research institutes in Germany and further afield.

Ulrich Gensch (53), a leading

scientist at Zeuthen since 1972, takes over as the institute's director. Until 1987, he worked at Serpukhov and Dubna and at CERN. In 1987 he became a member of the Zeuthen group which joined the international H1 collaboration. He has been a member of the DESY Directorate since 1995, responsible for the Central Technical Research and Computing department.

Gertrude Scharff Goldhaber 1911 - 98

Gertrude Scharff Goldhaber, eminent physicist and wife of former Brookhaven Director Maurice Goldhaber, died on 2 February.

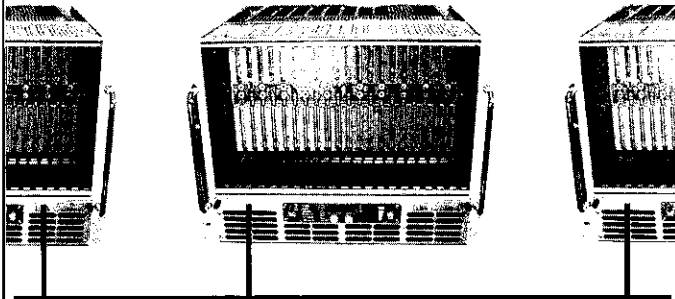
She began her physics career in 1935 in antiferromagnetism with a PhD from Munich, moving on to London's Imperial College, Illinois and Brookhaven. As well as pioneer work on beta decay and nuclear fission, her contributions also spanned neutron and nuclear physics. She was a fellow of the American Physical Society, the US National Academy of Sciences and the American Association for the Advancement in Science. At Brookhaven, she promoted scientific awareness and was a founding member of the active Brookhaven Women in Science organization.

Richard Slansky (1940-98)

Richard Slansky, Director of the Theoretical Division of Los Alamos National Laboratory, died on 16 January following a brain aneurysm. Initial studies at Harvard and Berkeley were followed by a postdoctoral fellowship at Caltech and five years at Yale. Slansky came to Los Alamos in 1974 to join the

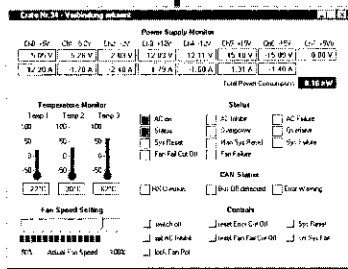
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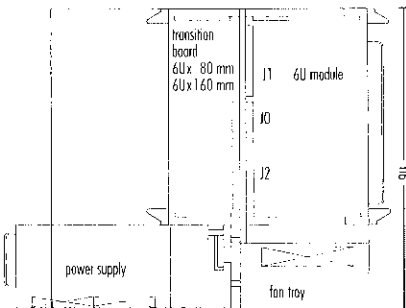


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Richard Slansky (1940-98)



newly-formed elementary particle physics theory group set up by Peter Carruthers (who died last year). He worked on the phenomenology of particle production and moved on to the symmetries and problems of the unification of the forces of nature, including neutrino masses. In 1989 he was named division leader. A fellow of the American Physical Society and the American Association for the Advancement of Science, he was also an adjunct professor of physics at UC Irvine. Dick was a great believer in the quality of science and worked hard to build a strong workforce in his division through a consistent series of outstanding postdoctoral and Oppenheimer fellowship appointments. His dedication to and deep interest in fundamental scientific questions was characterized by a boyish sense of enthusiasm and wonderment about science. He also strived to improve communication and collaboration that cut across scientific boundaries. He was also a regular visitor to CERN's Theory Division.

Chinese Deputy Prime Minister Li Lanqing (right) with eminent physicist Sam Ting during a visit to CERN on 4 February. The party included 60 Chinese dignitaries including 10 ministers.

XVII International Conference on High Energy Accelerators

The Joint Institute for Nuclear Research (JINR), Dubna, near Moscow, will host the 17th International Conference on High Energy Accelerators - HEACC'98. These conferences are held every three years and traditionally involve about 600 specialists. The Conference will be held in Dubna, Moscow Region, Russia, on 7-12 September. It is supported by the Russian Academy of Sciences and the International Committee for Future Accelerators (ICFA). The scientific programme includes invited reports, mini-rapporteur talks and poster contributions. Leading specialists from major accelerator centres will present status reports. The programme will also include round-table discussions on the current status of accelerator science. An industrial exhibition will attract firms and specialists in the fields of accelerator, vacuum, cryogenic and high-frequency technologies. Measuring and control instruments as well as power supplies will also be exhibited. The social programme will include excursions to Sergiev Posad (former Zagorsk) and Moscow, as well as concerts by Dubna artistic

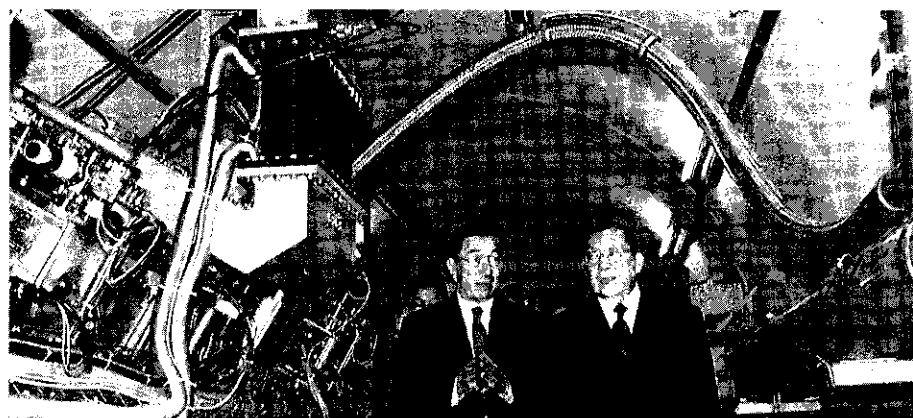
Bob Jaffe was one of the lecturers at a recent meeting 'Deep Inelastic Scattering off Polarized Targets - Theory meets Experiment' held at DESY-Zeuthen.



groups and professionals from Moscow. Detailed conference information via <http://www.jinr.ru/HEACC'98/> or contact the organizers fax (+7 09621) 65767 or phone (+7 09621) 65136

SLAC Summer Institute

The XXVI SLAC Summer Institute on Particle Physics will be on 'Gravity - From the Hubble Length to the Planck Length' and will be held from August 3-14 at the Stanford Linear



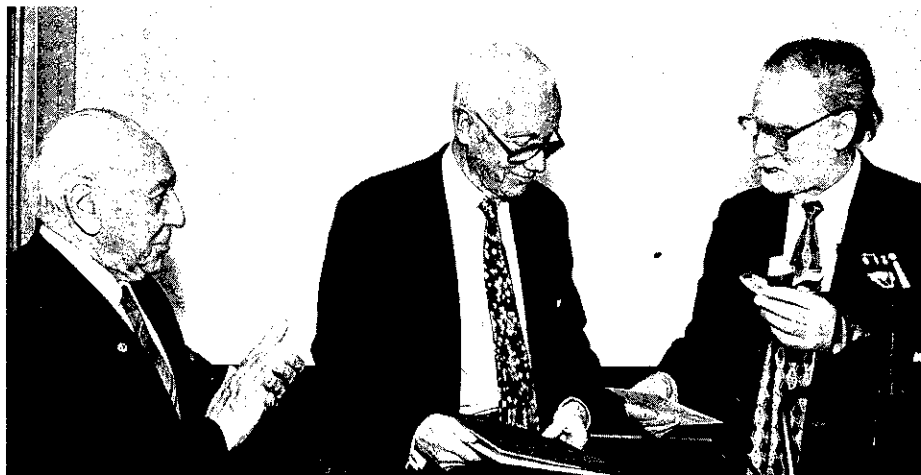
Klaus Winter (centre) receives the prestigious 1997 Bruno Pontecorvo Prize of the Joint Institute for Nuclear Research (JINR), Dubna, near Moscow. He is flanked by JINR Director Vladimir Kadyshevsky (right) and Venedikt Dzhelepov, Honorary Director of JINR's Laboratory of Nuclear Problems.

Accelerator Center, Stanford, California.

The Institute will consist of a seven-day school followed by a three-day topical conference and is designed primarily, but not exclusively, for postdoctoral experimentalists and theorists. Advanced graduate students are welcome.

Further Information - Lilian DePorcel, Conference Coordinator, SLAC, PO Box 4349, MS 62, Stanford, CA 94309, U.S.A. Phone: (650) 926-2710. Fax: (650) 926-3587. Electronic Mail: ssi@slac.stanford.edu.

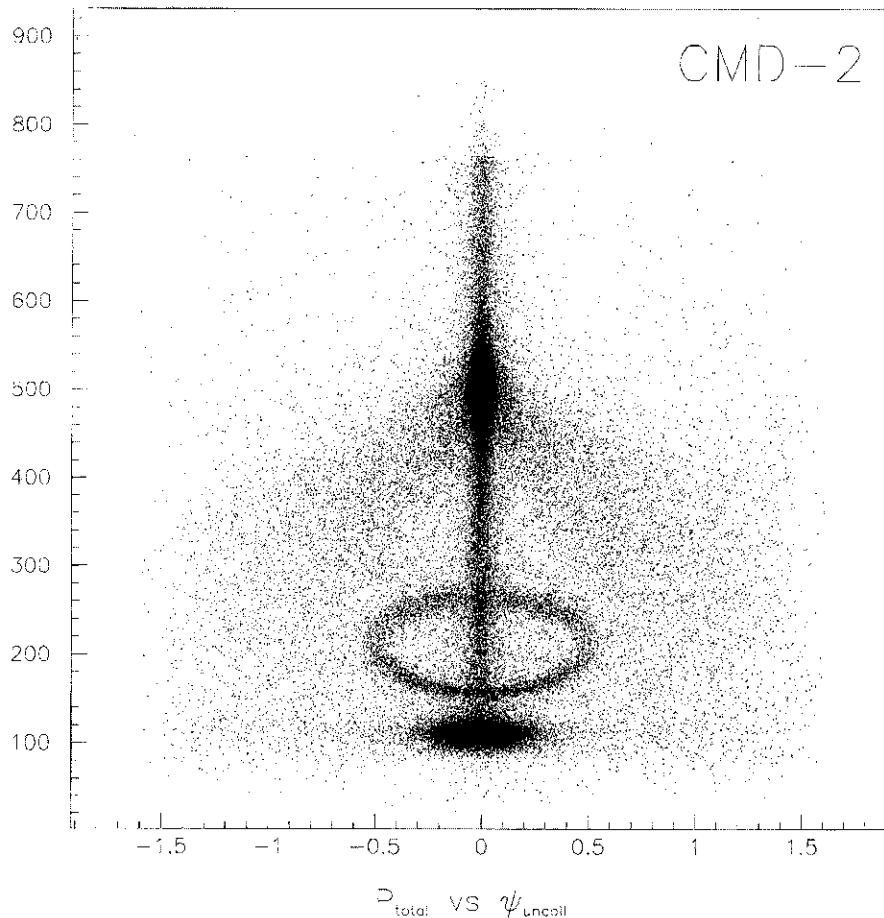
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DESY Theory Workshop

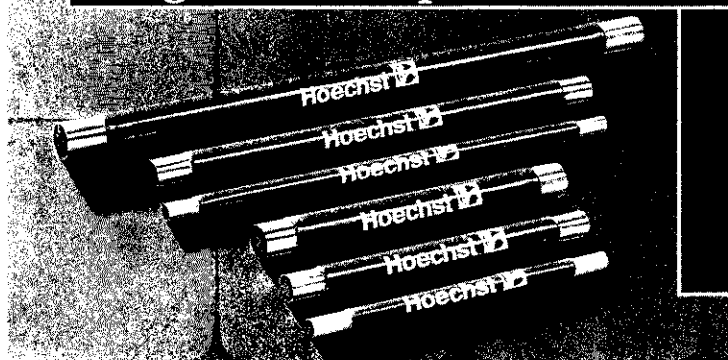
The next DESY Theory Workshop will be on "Directions beyond the Standard Model" and will be held at DESY from 30 September to 2 October. The Chairman is Hans-Peter Nilles of Bonn, e-mail: bsm98@physik.uni-bonn.de It will cover theoretical ideas such as supersymmetry, baryon and lepton number violation, dynamical symmetry breaking etc. with

Hi-phi: Raw data from the CMD-2 detector at Novosibirsk's VEPP-2M electron-positron collider, showing events with two charged tracks and an arbitrary number of photons selected at the energy corresponding to the $\phi(770)$ meson at 1019 MeV. The vertical axis is the total momentum of two tracks in MeV, while the horizontal axis gives the angle between the tracks, with the $x=0$ line corresponding to collinear events. The grouping of events around 500 MeV comes from electron-positron, muon and pion pairs. The cluster near 100 MeV is due to charged kaon pairs. The ring is due to neutral kaon pairs, with the (short-lived) kaon decaying into two pions. The cone below 500 MeV is due to events producing an electron-positron pair and a gamma.



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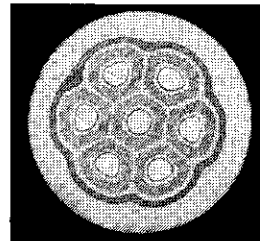
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emphasis on implications in particle physics, astrophysics and cosmology.

Fermilab meetings

May 7-9, PIXEL98 - International Pixel Detector Workshop. http://www-ppd.fnal.gov/epp_www/PIXEL98/PixelWorkshop.html

May 14-16, "Physics at Run II" - Workshop on Supersymmetry/Higgs: First General Meeting, M. Carena and J. Lykken, Co-Chairs; http://fnth37.fnal.gov/may_meeting.html

September 24-26, 4th Workshop on Small-x and Diffractive Physics; Michael Albrow (Fermilab) and Alan White (Argonne) Co-Chairs; <http://www.hep.anl.gov/Theory/smxdf.html>

Around 60 physicists, including many former colleagues and collaborators, came to Durham, UK, last December for a meeting to mark the 60th birthday of Alan Martin (sweater, centre front) and his many contributions to theoretical particle physics - ranging from pion scattering phase shift analyses to precision electroweak results from LEP.



CERN Courier contributions

The Editor welcomes contributions. These should be sent via electronic mail to

cern.courier@cern.ch

Plain text (ASCII) is preferred. Illustrations should follow by mail (CERN Courier, 1211 Geneva 23, Switzerland).

Contributors, particularly conference organizers, contemplating lengthy efforts (more than about 500 words) should contact the Editor (by e-mail, or fax +41 22 782 1906) beforehand.

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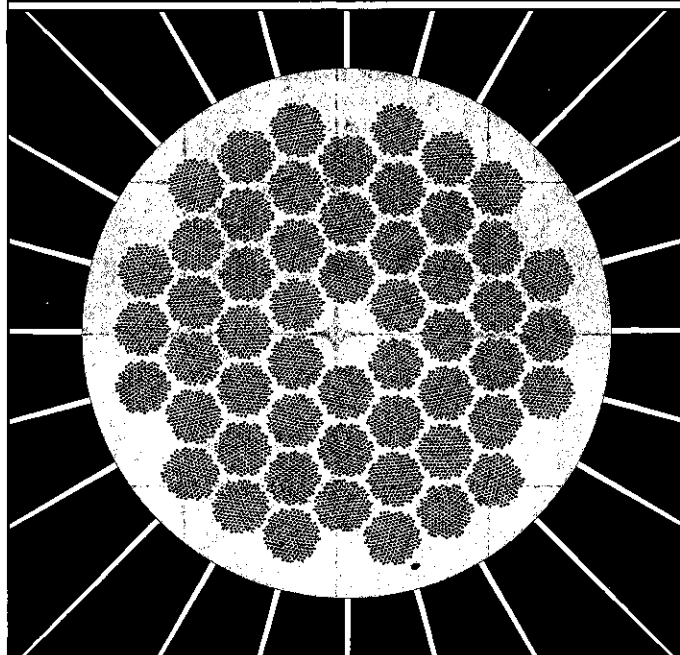
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A limited number of post-doctoral Research Associate positions will be available in the coming year with research opportunities in the following areas:

Preparing for B physics with the BABAR detector at the PEP II Asymmetric B Factory, helping design and build the detector sub-systems and get ready for physics

Participating in a Particle Astrophysics program studying time-dependent x-ray sources with the USA (1996 launch) and R&D for a high-energy gamma ray astronomy experiment in space (GLAST)

These positions are highly competitive and require a background of research in high-energy physics and a recent PhD or equivalent. The term for these positions is two years and may be renewed.

Applicants should send a letter stating their physics research interests, along with a CV, list of publications, and the names and addresses of three references to: Jean Lee, jeanlee@slac.stanford.edu, Research Division, M/S 80, SLAC, P.O. Box 4349, Stanford, CA 94309. Equal opportunity through affirmative action.

*Stanford Linear
Accelerator Center*
SLAC

GRAN SASSO NATIONAL LABORATORY TECHNICAL DIRECTOR

Gran Sasso National Laboratory is one of the four INFN national Laboratories. It is located close to the freeway from Rome to Teramo at 120 km from Rome and at 10 km from the closest town, L'Aquila.

It consists of three large underground halls, under 1400 m rock overburden. Infrastructures (computing, workshops, library, laboratories and mounting halls) are located outside the tunnel, at about 7 km from the underground laboratories. The staff consists of 64 permanent positions plus a dozen of fixed term ones. The main mission of the Laboratory is to provide a low radioactive background environment for experiments searching for rare phenomena. Experiments on a long base line neutrino beam from CERN (Geneva, Switzerland) are also currently planned. The underground halls host a dozen of experiments ranging in size from very large (10 m x 15 m x 70 m) to very small and in different phases from commissioning to data taking. Users consists of about 500 physicists, half of which Italians.

The technical director will have responsibility of the overall coordination, systems integration, safety issues and day-to-day operations of the activities of the Laboratory. He/She will coordinate the responsibilities of the engineering staff of the Laboratory (strong of six engineers with overall ten year long experience and a number of technicians) and he/she must be able to positively interface with the scientific users of the Laboratory. Successful candidates must have advanced degree in engineering or science and a proved multiannual experience in technical management of large size laboratories or complex experiments. Candidates should fluently speak English; the knowledge of the Italian language will be an element of preference though it is not mandatory. The appointment will be for a three year period and it might be renewed. Applications together with a curriculum vitae, a summary of the candidate professional, technical and scientific career should be submitted to:

Professor Alessandro BETTINI
LABORATORI NAZIONALI DEL GRAN SASSO
S.S. 17 bis KM 18+910
67010 - ASSERGI (AQ)
ITALIA

not later than **May 31, 1998**

More information about Gran Sasso Laboratory are available at www.lngs.infn.it

Associate Scientists Beams Division

The Fermi National Accelerator Laboratory (Fermilab) Beams Division has two excellent opportunities for Associate Scientists. These are initial three-year term appointments with a possible extension and consideration for a regular position on the Fermilab scientific staff. Both positions require a Ph.D. in physics (or equivalent) and two or three years of relevant post-doctoral experience. Excellent communication skills and leadership potential are also required.

Accelerator Physics

The Associate Scientist in this position will focus on applications of accelerator physics that are required by the Fermilab research program, but will also have some opportunity for self-directed research. The beam physics applications include opportunities to understand, operate and improve the performance of the Tevatron, Main Injector, Recycler or Antiproton Source, and to participate in the design of future accelerators and facilities. An excellence demonstrated by significant post-graduate work in accelerator physics, accelerator technology, particle physics or some related field is required for consideration.

NuMI Project

In this position, the Associate Scientist will assume a lead role in the Fermilab NuMI (Neutrinos at the Main Injector) Project, a search for neutrino oscillations. The NuMI Project includes the design, construction, operation and management of a high flux neutrino facility and detectors that will be used by both short and long baseline experiments. The successful candidate will be expected to make significant contributions to both the design and construction of the facility as well as to the experimental program. Additionally, the incumbent will make analytical and numerical calculations necessary for the design, fabrication and testing of technical components required for the neutrino beam and detectors. Experience and demonstrated excellence in both technical design and project management are required as is a strong interest in neutrino oscillations.

Located 40 miles west of downtown Chicago on a campus-like setting, Fermilab provides its employees with opportunities for personal and professional growth, competitive salaries, and an attractive benefits package. Applicants are requested to forward their curriculum vitae and a list of *at least* three references to: **Dr. Stephen Holmes, Fermi National Accelerator Laboratory, P.O. Box 500, M.S. 306, Batavia, IL 60510-0500, U.S.A.** To access Employment Opportunities at Fermilab, our URL is <<http://fnalpubs.fnal.gov/employ/jobs.html>>. EOE M/F/D/V.



Johann Wolfgang Goethe-Universität
Frankfurt am Main

The Physics Department of the Johann Wolfgang Goethe University at Frankfurt / Main invites applications for a

Full Professorship (C4) of Applied Physics

The appointment is to begin in April 1999.

Research in the group focuses on physical principles and applications of particle accelerators. Applications are solicited from scientists with an outstanding record in research areas such as the physics of intense particle beams, ultrahigh-frequency physics, and the development of modern particle accelerator systems. The prospective appointee is expected to participate actively in international large-scale projects.

Teaching obligations for undergraduate students cover the entire field of experimental physics. Willingness to participate in the autonomous academic administrative system is required.

The University is seeking to raise the percentage of female members of the scientific staff and thus specifically encourages applications from women.

The formal requirements to be fulfilled by the appointee are given by § 39a HUG (Hessian University Law). The regulations are available upon request. At the time of appointment, the appointee must not be older than 52. The law requires handicapped applicants to be given preference.

Please send your resume within six weeks after appearance of this announcement to: **Dekan des Fachbereichs Physik, Johann Wolfgang Goethe-Universität, Postfach 11 19 32, D-60054 Frankfurt am Main (Postal address for parcels: Senckenberganlage 31, D-60325 Frankfurt)**

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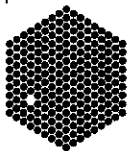
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EMBL

The European Molecular Biology Laboratory (EMBL), an international research organisation with its Headquarters Laboratory in Heidelberg (Germany), Outstations situated in Grenoble (France), Hamburg (Germany) and Hinxton (UK), and a Research Programme at Monterotondo (Italy) has the following vacancy in **Heidelberg**:

MANAGER OF HIGH-PERFORMANCE COMPUTING (ref. no.: 97/91)

The European Molecular Biology Laboratory in Heidelberg, Germany, has a wide research programme in the areas of structural, developmental and cell biology, cell biophysics, gene expression and instrumentation. A position is available in the Structural Biology (incl. Biocomputing) Programme for the manager of high-performance computing. This will be a joint appointment with the Computer and Networking Group.

The job will entail the management of a multiprocessor shared-memory computer (the present computer will be replaced by a new one in early 1998) and a distributed workstation farm; advice and assistance to users for optimizing and porting molecular biology codes to parallel machines; and the running of short training courses in high-performance computing.

Candidates should have a background in scientific computing with experience in computer management (unix) and parallel programming (shared and distributed memory). Experience in molecular biology, molecular dynamics simulation, image processing, protein crystallography or NMR would be an advantage.

The contract will be for three years in the first instance. This can be renewed for up to a maximum of nine years, depending on the circumstances at the time of review.

Commencing date: As soon as possible.

For further information: Rebecca Wade: Tel: +49-6221-387553, Fax: +49-6221-387306, E-mail: wade@embl-heidelberg.de

EMBL is an inclusive, equal opportunity organisation.

EMBL Web site: <http://www.embl-heidelberg.de/>

To apply please send your CV, quoting ref. no. 97/91, to:

The Head of Human Resources, EMBL, Postfach 10.2209, D-69012 Heidelberg. Fax: +49 6221 387555; Tel.: +49 6221 387 208; email: jobs@EMBL-Heidelberg.de



The Swiss Federal Institute of Technology in Lausanne (EPFL) invites applications for a newly created position as

FULL OR ASSOCIATE PROFESSOR IN THEORY OF COMMUNICATION SYSTEMS

The field is broadly defined within the theoretical foundations of communications and information systems. Possible topics include, but are not restricted to: information theory, communication theory, protocol specification/verification, formal languages and performance analysis for communication/information systems. The successful candidate is expected to have an outstanding record, and to be interested in teaching at both the undergraduate and graduate level in the areas of communication and information systems. He/she should be equally interested in fundamental science and phenomena as well as in technologies and their industrial applications. He/she is also expected to develop collaborations with industries having activities in related areas, as well as with other laboratories of the EPFL, of the Swiss Federal Institute of Technology Zurich (ETHZ) and with EURECOM.

The Communication Systems Division is one of the two priority areas of the EPFL. It has a specific undergraduate and graduate with courses in Communication Systems both from the Computer Science and the Electrical Engineering point of view.

EPFL is a top, internationally minded Technical University; the EPFL offers competitive salaries, substantial start-up packages and excellent research and teaching facilities. Information about the EPFL and the Communication Systems Division can be obtained by consulting <http://www.epfl.ch/bienvenue.html> and <http://sscwww.epfl.ch/>

Starting dates: upon mutual agreement. Applications from women are particularly welcome.

Deadline for applications: May 20, 1998.

For further information please contact by writing: **Professor J.-C. Badoux, President, Ecole polytechnique fédérale de Lausanne, CH-Écublens, CH 1015 Lausanne, Suisse, or by fax no +41.21.693.70.84.**



**DEUTSCHES ELEKTRONEN-SYNCHROTRON
DESY**

We seek an experimental physicist to play a key role in a collaborative R/D program extending the range of accelerating gradients achievable in superconducting radio frequency cavities. The work will take place at Cornell University. The successful candidate will need to be resident in Ithaca, NY, although some visits to DESY Germany will also be required.

Candidates should have a recent PhD in experimental physics or engineering physics. Experience in some of the following areas is desirable: low temperature physics, vacuum science, solid state physics, surface physics and radio frequency systems for accelerators. Excellence with oral and written communication is required, as is the ability to work both independently and as a member of a group. Candidates must be younger than 32 years of age.

The position is awarded for a duration of two years with the possibility of one additional year.

Interested persons should send their application including a resume and the usual documents (curriculum vitae, list of publications) before 24th april 1998 to:

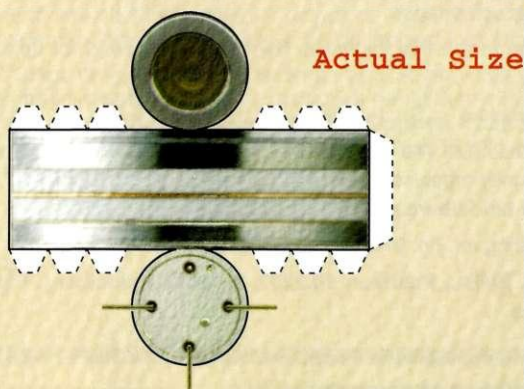
**DEUTSCHES ELEKTRONEN-SYNCHROTRON, DESY,
Notkestraße. 85, 22607 Hamburg, Germany
Code Nr. 5/98**

They should also arrange for three letters of reference to be sent by the same date to the above address.

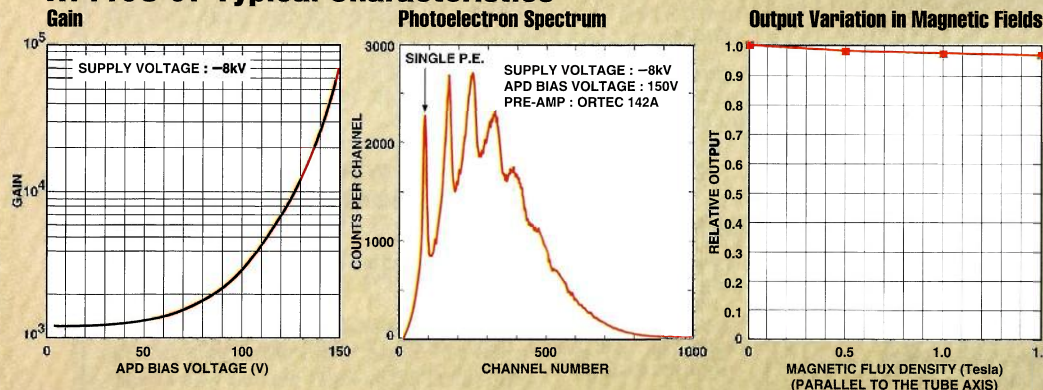
Handicapped applicants will be given preference to other applicants with the same qualification. Women are especially encouraged to apply for this position.

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R7110U-07 Typical Characteristics



COMPACT HPD

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R7100U-07 : Si-Diode Target Type

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Supply Voltage : 8000 V Max.
Weight : 13.8 g



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U.S.A.: Hamamatsu Corporation. TEL:(1)908-231-0960 FAX:(1)908-231-1218

Germany: Hamamatsu Photonics Deutschland GmbH. TEL:(49)8152-3750 FAX:(49)8152-2658

France: Hamamatsu Photonics France S.A.R.L. TEL:(33) 1 69 53 71 00 FAX:(33) 1 69 53 71 10

Switzerland: CERN Liaison Office TEL:(41)31/879 70 70 FAX:(41)31/879 18 74

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