

People and things

Time's Arrows Today - Recent Physical and Philosophical Work on the Direction of Time, Edited by Steven F. Savitt, Cambridge University Press, ISBN 0 521 461111

Most of the contributions in this volume were presented at the 'Time's Arrows Today' conference at the University of British Columbia in 1992. Most of the 12 contributors are philosophers of science: three are physicists (A.J. Leggett, P. Stamp, W. Unruh, and one (R. Douglas) a mathematician.

Gentner-Kastler Prize

The prestigious Gentner-Kastler Prize, jointly awarded by the French and German Physical Societies, goes this year to Walter Schmidt-Parzefall of DESY, formerly leader of the Argus group at the DORIS electron-positron collider at the DESY Laboratory Hamburg, which has made many significant contributions to heavy quark spectroscopy. Subsequently he joined Hamburg University, and has recently played a prominent role in establishing the HERA-B experiment at DESY's HERA electron-proton collider. Before working at DESY, Schmidt-Parzefall spent some time at CERN's Intersecting Storage Rings.

CERN. Among those present were Victor Weisskopf, CERN's Director General at the time, and Mervyn Hine, responsible for CERN's long-term planning under Weisskopf. The ISR, the world's first proton collider, came into operation in 1971, ahead of schedule, but was shut down in 1984, also ahead of schedule, as part of the bid to divert funds to LEP construction. The ISR, which used the idea of particle stacking to build up the stored beam intensity, was long regarded as a masterpiece of accelerator building, and blazed a trail for CERN's future accelerator projects. Many CERN specialists cut their accelerator teeth at the ISR.

ICTP Dirac Medal

The International Centre for Theoretical Physics (ICTP), Trieste, is awarding its 1995 Dirac Medal to Michael Berry of Bristol for his discovery of the non-integrable phase that arises in adiabatic processes in quantum theory. This

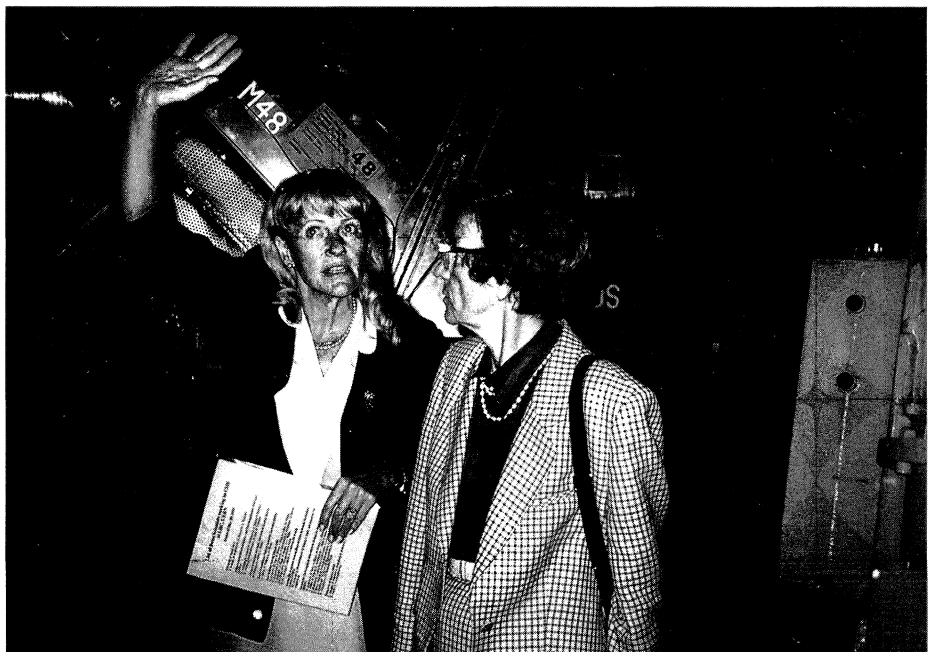
Thirty ISR years

A discreet lunch event at CERN marked the 30th anniversary of the historic decision to go ahead with the Intersecting Storage Rings (ISR) at

BROOKHAVEN

Japanese collaboration

The Japanese RIKEN Laboratory is contributing \$20 million to the RHIC Relativistic Heavy Ion Collider now being built at Brookhaven. In return, RIKEN will participate in research at RHIC. More news in our next issue.



Felicitas Pauss (left) explains the challenges of LHC physics to Verena Meyer, President of the Swiss Science Council.

**The Physics Department of Princeton University
announces the 1996 competition for the
ROBERT H. DICKE
POSTDOCTORAL FELLOWSHIPS**

A fellowship program named for Robert H. Dicke has been established to provide opportunities for outstanding young physicists to work in the field of their choice.

Research may be carried out independently or in collaboration with members of the Physics Department. The Fellowships provide an annual stipend of \$ 39,000 along with a \$ 5,000 annual allowance for research support. The Fellowships are awarded for two years with a nominal starting date in September of 1996. There is the possibility of an additional year at Princeton by mutual agreement. Applicants will also be considered for available postdoctoral positions. Current areas of research include:

• Atomic Physics and Optical Pumping • Biophysics • Condensed Matter Experiment • Condensed Matter Theory • Cosmology • Gravitational Physics • Mathematical Physics • Nuclear Physics • Nuclear Astrophysics • Pulsar Physics • High Energy Experiment • Theory of Elementary Particles & Strings

Candidates should send a letter of application and the supporting materials listed below to the DICKE FELLOWSHIPS COMMITTEE, c/o Prof. A.J.S. Smith, Princeton University Physics Department, P.O. Box 708, Princeton, NJ 08544, USA.

Applications must be received **no later than December 18, 1995.**

1. Curriculum Vitae
2. List of publications and preprints
3. Brief statement of research interests and goals
4. Names and addresses of three referees familiar with the candidate's work (the candidate should arrange to have the letters of recommendation sent directly to the address above).

Princeton University is an Affirmative Action/Equal Opportunity employer and particularly welcomes applications from women and members of minority groups.

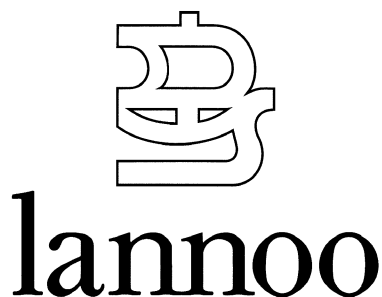
FACULTY POSITIONS IN PHYSICS

University of California, Berkeley

The Physics Department of the University of California, Berkeley intends to make two faculty appointments effective July 1, 1996. Candidates from all fields of physics are encouraged to apply. Appointments at both tenure-track assistant professor and tenured levels will be considered.

Please send a curriculum vitae, bibliography, statement of research interests, and a list of references to **Professor Roger W. Falcone, Chairman, Department of Physics, 366 LeConte Hall 7300, University of California, Berkeley, CA 94720-7300, USA**, by Monday, November 27, 1995. *Applications submitted after the deadline will not be considered.* The University of California is an Equal Opportunity, Affirmative Action Employer.

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EXPERIMENTAL ASTROPHYSICS

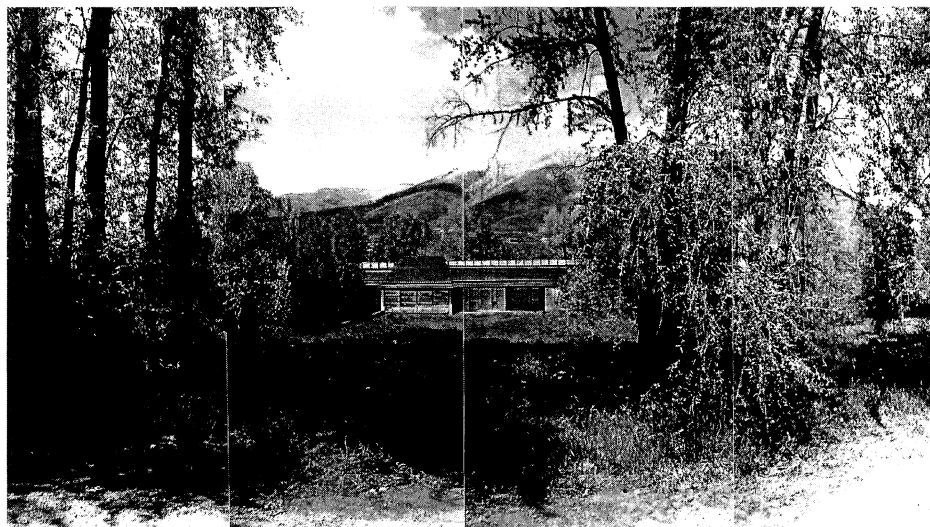
The Physics Department at the University of Utah is seeking qualified candidates for a tenure track position in experimental astrophysics at the assistant professor or associate professor level. We seek candidates with strong commitments to both teaching and research. Successful candidates will be expected to initiate their own research program and/or contribute to existing research efforts as well as teach undergraduate and graduate courses in Physics. The department has a strong research program in experimental astrophysics/cosmic ray physics which includes the High Resolution Fly's Eye, balloon based experiments, ground arrays (CASA/MIA and others), and satellite-based observations.

Candidates should submit their curriculum vitae, list of publications and three letters of recommendation by February 1, 1996 to:

**EXPERIMENTAL ASTROPHYSICS FACULTY
SEARCH COMMITTEE**
Department of Physics
201 James Fletcher Bldg.
University of Utah
Salt Lake City, UT 84112, USA

The University of Utah is an Affirmative Action Equal Opportunity Employer. It encourages applications from women and minorities and provides reasonable accommodations to the known disabilities of applicants and employees.

A new building has been approved and is expected to be complete for the 1996 summer programme at the Aspen (Colorado) Centre, a traditional venue for US particle physics meetings.



effect was first detected in 1986 in an optics experiment by Tomita and Chiao in which the rotation of the polarization plane of a wave propagating in a twisted optical fibre was interpreted as a Berry phase. In the same year it was found that the frequency splitting in the nuclear quadrupole resonance spectra of a slowly rotating nucleus could be ascribed to a Berry phase phenomenon.

The Berry phase is now known to play a significant role in many different areas of microscopic physics ranging from chemistry and molecular physics to optics, nuclear and solid state physics and relativistic quantum field theory. In all these areas the recognition of the non-integrable phase has led to a deepening of our understanding of the underlying quantum dynamics.

ICTP instituted the Dirac Medals in 1985. They are awarded for contributions to theoretical physics and mathematics, but are not awarded to Nobel Prize or Wolf Foundation Prize winners.

Aspen facelift

A traditional focal point for US particle physics is the Aspen (Colorado) Centre, where, summer and winter, researchers come to compare notes and swap ideas. The trustees of the Center have launched a fund-raising drive to raise money for new buildings on the campus. Initial contributions come from Aspen resident Gerald Hosier and the Smart Family Foundation, as well as from members and friends of the Center. A new building has been approved and is expected to be complete for the 1996 summer programme.

Award of the Association of the Friends and Sponsors of DESY 1995

The Association of the Friends and Sponsors of DESY (Hamburg) announces a prize to recognize an outstanding PhD thesis based on research at the Laboratory. Nominations are invited on behalf of candidates whose theses meet the following criteria: it must have been completed and submitted in 1995; it must describe research in particle

physics (experimental or theoretical), in accelerator physics or in the application of synchrotron radiation; and the research must have been wholly or partially carried out at DESY.

The prize will be accompanied by an award of DM6000 and may be shared by two candidates. The winner will be chosen by the Directorate of the "Verein der Freunde und Förderer des DESY" on the recommendation of an international review committee. Nominations should be sent to Professor E. Lohrmann, II. Institut für Experimentalphysik, Universität Hamburg, before December 31, 1995, including a detailed justification and accompanied by seven copies of the thesis.

Meetings

The NATO Advanced Study Institute on Techniques and Concepts of High Energy Physics will be held from 11-22 July, 1996, in St. Croix, U.S. Virgin Islands. Attendance is limited to about 60 advanced graduate students and recent PhD recipients in experimental high energy physics. Application Deadline: February 1, 1996. Applicants should send letter, vita and recommendation from advisor. Email is acceptable. Contact: C. Jones, Dept. of Physics, ASI-96, University of Rochester, Rochester, NY 14627 USA; email: connie@urhep.pas.rochester.edu. The Institute's Director is Prof. T. Ferbel, University of Rochester, and is sponsored by the NATO Advanced Study Institutes Program, the US Dept. of Energy, National Science Foundation, Fermi National Accelerator Lab, and the University of Rochester.

Deputy Russian Science Minister G. Kozlov speaks at the opening of the International Symposium on LHC Physics and Detectors, held at the Joint Institute for Nuclear Research (JINR), Dubna, near Moscow, in July. With him are (left to right) A. Poliakov, representing the Moscow civic authorities, JINR Vice-Director A. Sissakian, Deputy Minister of Atomic Energy L. Ryabev, CERN Director General Chris Llewellyn Smith, JINR Director General Vladimir Kadyshevsky, and M. Ciosek, Polish Ambassador in Moscow. Poland is a Member State of both CERN and JINR.



The Fourth International Winter School in theoretical physics "QCD: Perturbative and Non-Perturbative Topics" will be held at St. Petersburg Nuclear Physics Institute, Russia, from 3 - 17 February. Lectures will be at the postgraduate and postdoc level and include such topics as low x physics, theory and phenomenology of heavy quark decays, confinement, new developments in the dynamics of supersymmetric Yang-Mills theories, polarized deep inelastic scattering, dynamics of Wilson loops, and colour transparency. Among the lecturers are Profs. Anselm, Braun, Dokshitzer, Eides, Migdal, Lipatov,

Petrov, Uraltsev, Webber, Yung. Further information from Nikolai Kivel, e-mail: kivel@thd.pnpi.spb.ru

Subrahmanyan Chandrasekhar 1910-95

Renowned astrophysicist and cosmologist Subrahmanyan Chandrasekhar died in August, aged 84. Born in Lahore, then part of India, he did his first research at Cambridge and Copenhagen. The legend goes that during the long sea voyage from India to England he had the idea that when stars run out of nuclear fuel, they become crushed by their own

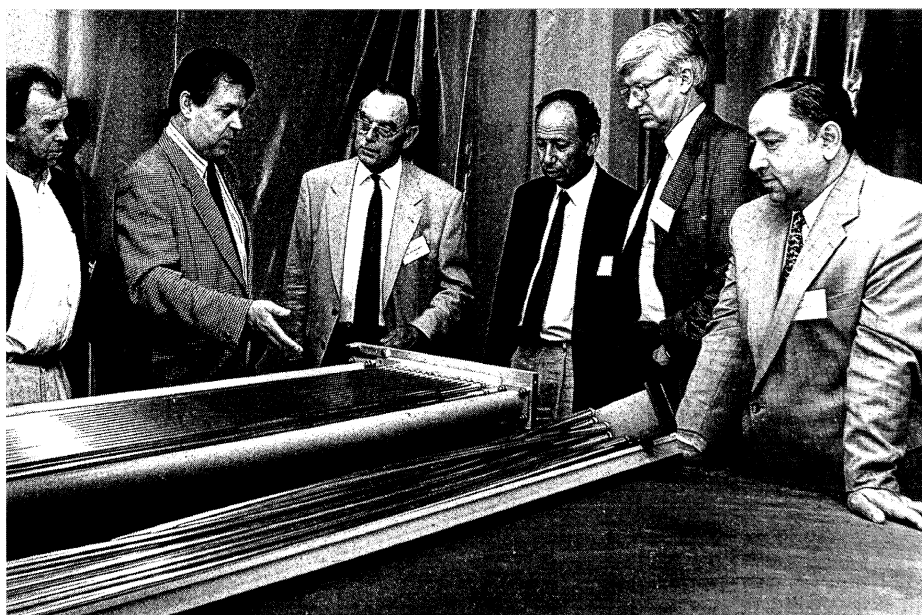
gravity if they are large enough. This famous 'Chandrasekhar limit' is about 1.5 times the mass of the Sun. At Cambridge, such revolutionary ideas initially did not find favour with Sir Arthur Eddington.

In 1936 Chandrasekhar moved to the US, where he spent most of his career at Chicago. He made many major contributions to astrophysics and wrote several authoritative works on the subject. In 1970 he suggested how gravitational radiation can affect rotating stars. In 1983 he shared the Nobel Physics prize with William Fowler, who died earlier this year (September, page 50), for their contributions to stellar evolution.

John Malos

Well known as a colleague to many at CERN, the Rutherford Appleton Laboratory and DESY, John Malos died recently after a heart attack at his home in Bristol at the age of 67. A sympathetic tutor and memorable lecturer familiar to many generations of physics students at Bristol, he was also a committed political activist who will be remembered in the Labour Party both in Bristol and further afield.

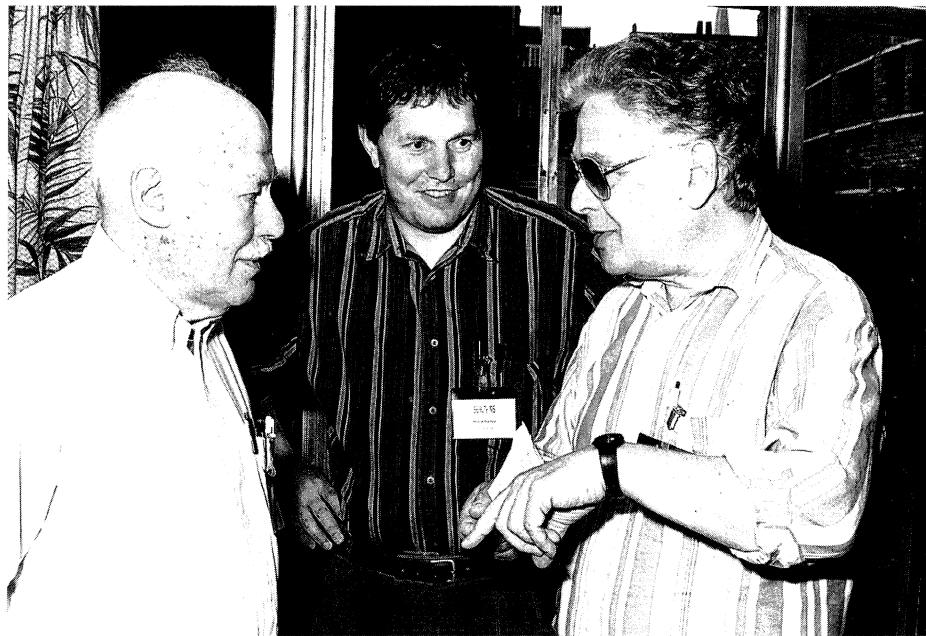
He came to Bristol from his native Australia in 1962 to work with Cecil Powell's cosmic ray group, but when the Nimrod proton synchrotron was built he became involved in its ex-



On a tour of JINR during the International Symposium on LHC Physics and Detectors (see top photo), Igor Golutvin, Russia and Eastern Countries coordinator for the CMS detector for LHC, explains research and development work on large area precise position gaseous detectors to (left to right) CERN-Russia coordinator Nicolas Koulberg, CERN Non-Member State coordinator Jim Allaby, CERN Research Director Lorenzo Foa, CERN Director General Chris Llewellyn Smith, and JINR Vice-Director Alexei Sissakian.

Beauty is attractive! Beauty '95, the third in a series of International Workshops on B-Physics at Hadron Machines, took place this summer in the appropriately beautiful surroundings of Wadham College, Oxford, where in the 17th century the founders of The Royal Society first met. Three hundred years later, Beauty '95 began with B physics results from LEP (CERN), the Tevatron (Fermilab) and CLEO (Cornell), as well as theoretical work on the decays of B particles. The workshop's main concern was development work for B physics in the different environments of HERA

(DESY) and the LHC (CERN). Triggering and vertex detection will be crucial in all these experiments. In addition, the physics programmes for future B facilities at Cornell, KEK (Japan) and SLAC (Stanford) were also reviewed. The proceedings will appear in a future special issue of Nuclear Instruments and Methods. Seen here are (left to right), Harry Lipkin (Weizmann Institute, who talked on penguins, trees and things), together with conference organizers Neville Harnew (Oxford) and Peter Schlein (UCLA).



perimental programme specializing in the development of novel detectors, making full use of his talents for electronic design. After the closure of Nimrod he moved on to the NA11 and NA32 experiments at CERN and later the ZEUS experiment at DESY. His retirement saw the redirection of his enthusiasm into a project to develop wind energy for generating electrical power on the Greek island of Kythera from which his parents had originated.

At this year's Users' Meeting at Brookhaven (left to right) - Users' Executive Committee Chairman Hank Crawford (LBL); Brookhaven Physics Department Chairman Peter Bond; US National Science Foundation Nuclear Physics Program Director Jack Lightbody; US Department of Energy Office of High Energy Physics Director John O'Fallon; Brookhaven Laboratory Director Nicholas Samios; US Department of Energy Office of Nuclear Physics Director Dave Hendrie; and Brookhaven High Energy and Nuclear Physics Associate Director Thomas Kirk.



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Jan Hendrik Bannier, who died on 7 September, was one of last surviving members of the gallant band of CERN founding fathers who pushed through, against all odds, the establishment of a European Laboratory in the difficult immediate post-war period.

As a physicist and Director of the Dutch Organization for the Advancement of Pure Research (ZWO) he represented, together with C.J. Bakker, the Netherlands at the intergovernmental conferences during the early 1950s when the idea of establishing a European laboratory was proposed and discussed. In 1952-3, he was Chairman of the provisional CERN Council, and it is his signature which appears for the Netherlands on the 1954 CERN Convention.

From 1958-60, he served as Chairman of CERN's Finance Committee, and during Victor Weisskopf's 1961-5 mandate as Director-General led a working group to study the Laboratory's budgeting procedures. Until then, large organizations had always reviewed and fixed their budgets each year for the next. Faced with long-term projects which required careful planning and budgeting over several years, this was a continual problem. Bannier's group pointed out the advantages of a rolling scheme - budgets should be fixed for the forthcoming year, together with a provisional plan to cover succeeding years. This long-term scheme, known in CERN as the 'Bannier procedure', is still the envy of many other organizations, straitjacketed by being able to budget only from one year to the next.

From 1964-66 he was President of CERN's Council, overseeing the ambitious preparations to extend

CERN's activities with the Intersecting Storage Rings (ISR) and the '300 GeV project' which was to become the SPS.

Not only did he help guide the Organization into being, but he moulded its statutes to ensure that it would be able to carry out its difficult mission. More than 40 years later, the continuing success of CERN is a lasting tribute to his wisdom and foresight.

LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

In der Fakultät für Physik ist zum Sommersemester 1996 eine

Professur (C4) für Theoretische Physik (Lehrstuhl)

zu besetzen.

Zu den Aufgaben gehört die Vertretung des Faches in Forschung und Lehre. Der Lehrstuhl ist insbesondere der Theoretischen Astro-Teilchenphysik gewidmet. Eine Beteiligung am Sonderforschungsbereich 375 – Astro-Teilchenphysik – ist erwünscht.

Einstellungsvoraussetzungen sind abgeschlossenes Hochschulstudium, pädagogische Eignung, Promotion und Habilitation oder gleichwertige Qualifikation.

Bewerber und Bewerberinnen dürfen das 52. Lebensjahr zum Zeitpunkt der Ernennung nicht vollendet haben.

Die Universität ist bestrebt, den Anteil der Frauen am wissenschaftlichen Personal zu erhöhen, qualifizierte Kolleginnen werden deshalb besonders aufgefordert, ihre Unterlagen einzureichen.

Bewerbungen sind mit den üblichen Unterlagen (Lebenslauf, Zeugnisse, Urkunden, Schriftenverzeichnis) bis 31. Okt. 95 beim **Dekanat der Fakultät für Physik der Ludwig-Maximilians-Universität München, Schellingstraße 4, 80799 München**, einzureichen.

FACULTY POSITION ACCELERATOR PHYSICS

Indiana University

The Department of Physics at Indiana University-Bloomington invites applications for a tenure-track faculty position at the assistant professor level in accelerator physics, for an appointment to begin fall 1996, or later. The department has an established graduate program and is inviting applications from Ph.D. physicists with experience in accelerator design who are interested in joining a strong academic and research program in accelerator physics. Responsibilities include teaching and supervising graduate student research in accelerator physics at the Indiana University Cyclotron Facility or other major facilities. Indiana University is a major research institution with strong programs in accelerator-based nuclear and high energy particle physics and a 50-year history of forefront accelerator development and construction. Present facilities include a 200 MeV separated-sector cyclotron and a 500 MeV storage ring/synchrotron with electron cooling. A new injector system for the Cooler consisting of an RFQ and small synchrotron has recently been funded. Several senior faculty members in physics and IUCF staff members with experience in the accelerator design also are involved in the accelerator physics program.

To apply please send complete vita (including a description of research interests, accomplishments, and a list of publications), and arrange for a minimum of three letters of reference to be sent to:

Professor S.-Y. Lee
Chair, Search Committee
Department of Physics
Indiana University
Bloomington, IN 47405, USA

Applications received by November 15, 1995, will be assured of consideration. Indiana University is an Equal Opportunity/Affirmative Action Employer.

BOSTON UNIVERSITY ELECTRONICS DESIGN FACILITY

SENIOR ENGINEER/PHYSICIST

This position in the Electronics Design Facility at Boston University provides engineering support to high energy physics research projects at SLAC, CERN, Brookhaven National Laboratory, and other international sites. The successful candidate will demonstrate considerable expertise, creativity and independence in state-of-the-art electronics and detector design, including high-speed analog and ECL/TTL/CMOS digital design. Substantial experience with experimental physics research required. Familiarity with NIM, CAMAC, VME/VXI and FASTBUS standards a plus.

This position requires an M.S. degree or equivalent in Physics, and 5 years' experience in physics research and electrical engineering. The EDF is staffed by four engineers and technicians. Equipment includes a Mentor Graphics CAE system (used for IC and PCB design), modern test equipment, VMEbus and CAMAC development systems, and several computer workstations.

Please send letter and resume to Virginia Gregory, Office of Personnel, Boston University, 25 Buick St., Boston MA 02215.
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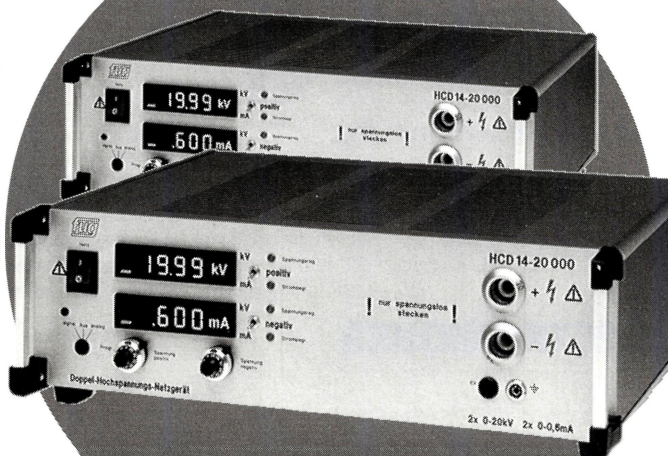
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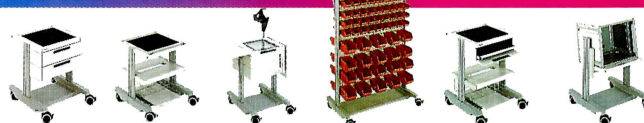


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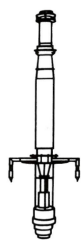
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