

Alan Wetherell 1932–1998

CERN senior research physicist Alan Wetherell died on 13 September. After studies at Liverpool and a period at Caltech, he came to CERN in 1959, going on to participate in a series of experiments at the then new Proton Synchrotron.

After work at Serpukhov in the late 60s and at CERN's Intersecting Storage Rings in the early 70s, he became head of this group when Giuseppe Cocconi became a CERN Director. The group shifted to weak interactions and joined with Klaus Winter for the CHARM (CERN/Hamburg/Amsterdam/Rome/

Moscow) experiment.

He was appointed Leader of CERN's Experimental Physics Division in 1981, and served for three-and-a-half years. Subsequently he joined Ugo Amaldi and Jim Allaby in the Delphi collaboration at LEP, eventually taking responsibility for the hadron calorimeter which was built under his guidance by a Russian team.

In 1971 he was elected a Fellow of the Royal Society (FRS). He was also a visiting professor at Liverpool. He formally retired from CERN in December 1997.

Alexei Andreevich Anselm 1934–1998

Theoretical physicist Alexei Andreevich Anselm, former Director of the Petersburg Nuclear Physics Institute, died on 23 August.

Born in Leningrad into a family of scientists, Alexei Anselm studied physics at Leningrad, then joined the Theory Group of the Ioffe Physical-Technical Institute.

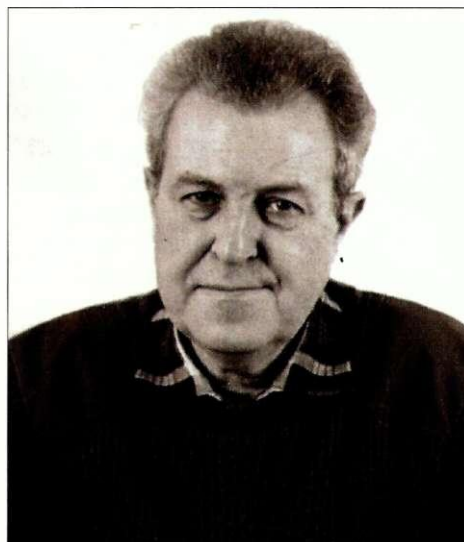
In 1971 he moved with the nuclear and particle physics branch of the Ioffe Institute which became the Leningrad Nuclear Physics Institute, the considerably enlarged Theory Group becoming the Theory Division of the LNPI. Alexei Anselm was its Head from 1983 until 1997, when illness forced him to retire.

During the troubled years from 1992 until September 1994 he was also Director of the Petersburg Nuclear Physics Institute (PNPI), as it became known.

Alexei Andreevich, or Alyosha, as he was fondly known to his many friends worldwide, published his first paper at the age of 23. During a 40-year career, he published over 130 papers, mostly on fundamental problems of particle physics and field theory.

In 1958 he was the first to discover that the Landau pole is not a universal phenomenon in quantum field theory: it is absent for a 2-D model with a four-fermion interaction, a result of which he was always proud.

During the 1960s he was best known for his contribution to the theory of complex angular momenta, in which the Theory Group under V N Gribov played a leading role. There followed work on the quark model, on spontaneous symmetry breaking, on mechanisms of CP violation and on modifications of the



Standard Model. During the early 1990s his work extended both to cosmology and to the development of a simple model for the proton "spin crisis".

In spring 1995 he underwent his first operation for cancer and moved to Boston in the hope of getting better treatment. In spite of his illness he continued to work and publish, lecturing at the 1996 CERN Summer School in Marseille.

In January 1998 Alyosha came to the PNPI Winter School dedicated to the memory of Vladimir Gribov. When we listened to his warm, thoughtful words of appreciation for Gribov, we did not know that they were to be his farewell to the Institute and to his friends. *His colleagues.*

Frederick Reines 1918–1998



Frederick Reines, who shared the Nobel Physics Prize in 1955 for his historic 1956 experiment with Clyde Cowan which discovered the neutrino, died in August.

After graduate studies at New York University, Reines was recruited into the wartime Theory Division at Los Alamos, eventually working at the laboratory for 15 years. In 1951 he was side-tracked into an ambitious project, with Clyde Cowan, to search for Pauli's elusive neutrino, first at the Hanford nuclear reactor, then at the more powerful Savannah River facility. As well as discovering the neutrino, this work also led to important advances in detectors to monitor radioactive tracers for medicine.

In 1959 Reines moved to the Case Institute of Technology, Cleveland, where he continued to promote neutrino experiments at reactors and pioneer studies deep underground to search for atmospheric and cosmic particles.

In 1966 he went to the University of California, Irvine, whose neutrino group still plays a leading role in major neutrino experiments, including the famous "IMB" (Irvine/Michigan/Brookhaven) underground detector.

He was showered with honours, including the J Robert Oppenheimer Memorial Prize, the US National Medal of Science, the Bruno Rossi Prize, the Michelson-Morley Award, the W K H Panofsky Prize, and the Franklin Medal as well as the Nobel.

As well as being a distinguished physicist, Fred Reines also had a fine singing voice, with which he would occasionally entertain close friends with Gilbert and Sullivan lyrics. He claimed the peak of his musical career was when he performed with the chorus of the Cleveland Symphony Orchestra.

RECRUITMENT

For advertising enquiries contact *CERN Courier* recruitment/classified, IOP Publishing Ltd, Dirac House, Temple Back, Bristol BS1 6BE, UK.

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Faculty and Postdoctoral Positions Institute for Theoretical Physics

State University of New York Stony Brook, N.Y. 11794-3840

The Institute for Theoretical Physics at the State University of New York at Stony Brook seeks candidates for postdoctoral positions, and continues to seek candidates for tenure-track faculty and tenured faculty, currently with anticipated appointment date 1 September 1999.

Research fields at the Institute include, but are not limited to, gauge field theory, elementary particle theory, statistical mechanics, supersymmetry, and superstrings.

For application instructions please see :
(<http://www.physics.sunysb.edu/itp.jobs>).

If your computer manager cannot provide web access, there is a slower alternative - - please

E-mail for instructions by auto-reply:
(jobforms@insti.physics.sunysb.edu). If you cannot connect electronically, and are prepared for significant processing delays, please write to:

ITP Search

State University of New York
Stony Brook, NY 11794 - 3840

Review of applications will resume this fall and continue until the positions are filled.

The University at Stony Brook is an Equal Opportunity/Affirmative Action Employer. Applications from, women, people of color, disabled persons, and veterans are especially welcome.



CENTRAL LABORATORY OF THE
RESEARCH COUNCILS



UNIVERSITY OF
SUSSEX

RUTHERFORD APPLETON LABORATORY & THE UNIVERSITY OF SUSSEX

TWO POSTS IN EXPERIMENTAL PARTICLE PHYSICS

Applications are invited for two posts in experimental particle physics. The posts are to be jointly funded by the Central Laboratory of the Research Councils and the University of Sussex for the first five years, and during this period the persons appointed will be based at the Rutherford Appleton Laboratory (RAL) for two thirds of the year and spend one term per year teaching at the University. Thereafter the persons appointed will be full time employees of the University.

The research interests of the group are currently in the areas of neutrino masses and precision measurements on the properties and interactions of free neutrons. Work is at present devoted to a measurement of the electric dipole moment of the neutron using stored neutrons at the Institut Laue Langevin, Grenoble and on preparations for the neutrino oscillation experiment (MINOS) to run in the USA. It is expected that the persons appointed will participate in this programme at RAL in Oxfordshire and at the University of Sussex.

Post 1 (Reader / Band 3, Salary £26,700 - £41,180; 1998 pay award pending) is available from 1st October 1999. **Post 2** (Lecturer / Band 4/5, Salary £15,180 - £24,820; 1998 pay award pending) is available immediately. The person appointed would work initially on the EDM experiment.

Candidates should send a CV with a list of publications and statement of research interests, and arrange for two letters of reference to be sent directly, to Dr R C Smith, Chair, Physics & Astronomy Subject Group, University of Sussex, Brighton BN1 9QJ by 30th November 1998.

Further particulars may be obtained from Prof. K Green (RAL; 01235-445381 and e-mail k.green@rl.ac.uk) and Prof. JM Pendlebury (University of Sussex; 01273-678114 and e-mail m.pendlebury@sussex.ac.uk).

The CLRC and the University of Sussex are committed to Equal Opportunities; the CLRC is committed to achieving the Investors in People standard.

The Department of Physics University of Wisconsin-Madison

anticipates a tenure track position at the assistant professor level in the interdisciplinary field of astroparticle physics, with the appointment to begin fall, 1999. The appointment may be at higher rank if qualifications and experience warrant. We seek an experimentalist with a strong track record. Preference will be given to candidates interested in the operation of the recently completed Antarctic Muon and Neutrino Detector Array and the research and development for its extension to a neutrino detector of kilometer-scale dimensions.

Applicants should submit a letter of application outlining their qualifications and interests with a resume and publications list, and arrange to have at least three letters of reference sent to Lee G. Pondrom, Chair, Department of Physics, UW-Madison, 1150 University Avenue, Madison, WI 53706 by December 1 1998. The material submitted should provide evidence of teaching skills and abilities to carry out an independent research program.

The University of Wisconsin is an equal opportunity/affirmative action employer and especially encourages women and minorities to apply. Unless confidentiality is requested in writing, information regarding the applicants must be released upon request. Finalists cannot be guaranteed confidentiality.



UNIVERSITY OF
CAMBRIDGE

Department of Physics
Cavendish Laboratory

Fixed-Term Lectureship in Experimental Particle Physics

Applications are invited for a three-year fixed-term Lectureship in Experimental Particle Physics at the Cavendish Laboratory. The successful candidate will carry out research within the Cambridge group's experimental programme; OPAL, NA48, ATLAS and LHCb at CERN, with new initiatives also under discussion. Teaching duties, including lecturing, allow time for active research.

Applicants must have a PhD in experimental particle physics. Starting salary is in a range up to £24,591 per annum. The post is pensionable. The position is open from 1st January 1999. Applications, including a *curriculum vitae*, a list of publications and the names and addresses of three referees, should be sent by Friday 20th November 1998 to: Professor M.S. Longair, Cavendish Laboratory, Madingley Road, Cambridge CB3 0HE, UK. Further information can be obtained from Dr.J.R. Carter at the Cavendish Laboratory, e-mail JRC1@hep.phy.cam.ac.uk, telephone +44(0) 1223 337235.

The University follows an equal opportunities policy and has a policy on arrangements for part-time work.



SENIOR MECHANICAL ENGINEER (Position #AR3223)

The Accelerator Division of Thomas Jefferson National Accelerator Facility (TJNAF) is seeking a senior level mechanical engineer to work as a project engineer on a variety of tasks including injector design, magnets, superconducting radio frequency cavities and cryostat design. These activities will support a continuing effort to further develop high gradient super conducting accelerator technology and high current, high polarization injectors for application in TJNAF's program of upgrades. The candidate must be able to work independently, applying their expertise in one or more of the following areas: injectors, ultra high vacuum, materials, welding, superconducting radio frequency and cryostats to solve complex problems where there are limited precedents. The incumbent will work with one or two designers or lead a group of several engineers and designers to turn concepts from physicists and other engineers into working designs.

A BS or MS in Mechanical Engineering or closely related field with a minimum of fifteen years of design experience related to particle accelerators is required. Some supervisory and/or project management experience along with good communication skills and the ability to interact with a staff of varying backgrounds and education are required. Requests for information should be addressed to Mark Wiseman, (wiseman@jlab.org) while applicants should submit a CV with at least three references to:

JEFFERSON LAB
Attn: Employment Manager
Mail Stop 28D
12000 Jefferson Ave.
Newport News, VA 23606, USA

Please specify position number and job title when applying.

Jefferson Lab is an Affirmative Action/Equal Opportunity Employer.



LANCASTER UNIVERSITY

Department of Physics

UNIVERSITY LECTURESHIP IN EXPERIMENTAL PARTICLE PHYSICS

Lancaster University invites applications for the above post which is available from 1st April 1999.

Lancaster University has a diverse research programme in experimental particle physics and a growing involvement in particle theory and cosmology. The experimental particle physics group is heavily involved in preparations for the ATLAS experiment at the LHC, while continuing strong participation in the ALEPH experiment at LEP and the H1 experiment at DESY. We are also active in the development of radiation hard semiconductor particle detectors. The appointee would be expected to participate in the future development of, and possible additions to this programme.

The salary is according to age and experience on the University Lecturer scale.

Further particulars of the duties associated with this post and application forms may be obtained from Personnel Services, Lancaster University, Bailrigg, Lancaster, LA1 4YW, UK (email personnel@lancaster.ac.uk), quoting reference number A71. The head of the group, Professor T Sloan, is happy to receive informal enquiries from potential applicants by telephone (+44 1524 593615) or email (t.sloan@lancaster.ac.uk).

Applications including a statement of research interests, any teaching experience, curriculum vitae, list of publications and the names of three referees should be mailed to Personnel Services, at the above address to arrive no later than 14 December 1998. The referees should be asked to send letters of reference directly to Prof T Sloan at the Department of Physics, Lancaster University, Lancaster, LA1 4YW, UK to arrive by the closing date. It is expected that short-listed candidates will be interviewed in Lancaster in early January 1999. Applicants are asked to provide an email address, fax or telephone number where they can be contacted.

The University is an Equal Opportunities Employer

MIT

TENURE TRACK POSITION

ASSISTANT PROFESSOR LEVEL EXPERIMENTAL RELATIVISTIC HEAVY ION PHYSICS

The Physics Department of the Massachusetts Institute of Technology invites applications for a physicist with a strong interest in Heavy Ion Physics at the high energy frontier. The MIT Relativistic Heavy Ion Group has a major involvement in the Phobos Experiment at RHIC. Phobos is expected to start taking data in the fall of 1999. The appointed candidate will have an opportunity to play a major role in the physics of Phobos and will be expected to play a leading role in the formulation and implementation of the group's research program in the light of the first RHIC results. The candidate is also expected to supervise graduate students and to participate in the department's undergraduate and graduate instructional program.

Applicants should submit, before January 15, 1999, a curriculum vitae, publication list and a list of four references to: **Professor B. Wyslouch, Chairman, Search Committee, 24-518, Massachusetts Institute Of Technology, 77 Massachusetts Ave., Cambridge, MA 02139-4307.** MIT is an Affirmative Action/Equal Opportunity employer and especially solicits applications from qualified women and minorities.



MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

The Swiss Federal Institute of Technology Lausanne (EPFL)
invites applications for the post of

Professor of Electromagnetism in the Department of Electrical Engineering

The successful candidate will develop high level research in the field of radiation and free or guided propagation of electromagnetic waves, in the microwave bands. He/she should possess a degree (Msc/PhD) in engineering. Open-mindedness to multidisciplinary collaboration with industries and within the Department of Electrical Engineering of the EPFL is essential, as well as experience in project management. He/she should preferably have several years of experience in industry. Education and teaching will constitute an important part of his/her responsibilities. His/her aptitude for research should be confirmed by scientific publications in international journals and/or patents. He/she will assume the direction of the Laboratory of Electromagnetism and Acoustics of the Department of Electrical Engineering of the EPFL.

Closing date for receiving applications: January 31st 1999. Starting date : to be discussed. Application forms and further information may be obtained by writing to the Presidency of the Swiss Federal Institute of Technology Lausanne, CH-Ecublens, CH-1015 Lausanne, Switzerland, or faxing +41 21 693 70 84. Further details are also available on the web: <http://www.epfl.ch>, <http://dcwww.epfl.ch/> or <http://admwww.epfl.ch/pres/profs.html>



TENURE TRACK FACULTY POSITION

EXPERIMENTAL GRAVITATIONAL PHYSICS

The Physics Department of the Massachusetts Institute of Technology invites applications for a Tenure Track Faculty Position in Experimental Gravitational Physics. As the construction of the Caltech - MIT Laser Interferometer Gravitational Wave Observatory (LIGO) nears completion, the Department of Physics at MIT seeks candidates for a faculty position in experimental gravitational physics. This NSF-funded national facility for the detection of gravitational waves from astrophysical sources will provide unique research opportunities in physics and astrophysics. The successful candidate will be expected to play a leadership role in either the analysis of data from LIGO or in the continued development of the facility, and to teach at the undergraduate and graduate level. Candidates should have demonstrated accomplishments in experimental physics or astrophysics, including data analysis, and promise for future growth. Because of the developing nature of this field, candidates with various experimental backgrounds (e.g., astrophysics, high-energy physics, nuclear physics, atomic physics, precision metrology, etc.) will be considered. Preference will be given to candidates applying at the level of tenure track assistant professor, but in exceptional cases more senior, well-established, physicists may be considered for a tenured appointment.

Applications including a curriculum vitae, a brief description of current research, and three letters of recommendation should be sent before December 31, 1998 to: **Professor June L. Matthews, Chair, Search Committee, Department of Physics, Rm. 26-433, Massachusetts Institute of Technology, 77 Massachusetts Ave., Cambridge, MA 02139-4307.** MIT is an Affirmative Action/Equal Opportunity Employer and especially solicits applications from qualified women and minorities.



MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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Max-Planck-Institut für Physik, Munich, Germany

invites applications for two postdoctoral positions, one in the HERA-B experiment and one in the ALEPH- (data analyses) and ATLAS- (hardware preparation) experiments.

The HERA-B experiment at the HERA proton-ring in DESY is designed to study CP-violation in the B-System. The detector is being commissioned, and the MPI is responsible for the silicon vertex detector. A successful candidate is expected to contribute to all phases of detector work and physics analysis.

ALEPH will be taking e^+e^- data at the LEP collider in CERN at centre-of-mass energies up to 200 GeV through the year 2000 and data analysis will continue for a few years. The MPI Munich group is engaged in analysis of beauty physics with LEP1 data at the Z^0 -peak and of QCD and the search for new particles with LEP2 data.

Participation in the ALEPH data taking and in the development work for the institute's engagement in ATLAS is expected.

The appointments will initially be for 2 years with the possibility of an extension of up to 5 years, but not beyond the age of 35. Candidates should hold a PhD or equivalent in particle physics.

Applications should include a statement of research interests, curriculum vitae and list of publications and be sent to **Prof. Volker Soergel, Max-Planck-Institut für Physik, Föhringer Ring 6, D-80805 München.**

Applicants should arrange for three letters of recommendation to be sent to the same address. Further information can be obtained from Dr. Ronald Settles for ALEPH (settles@mppmu.mpg.de) and Dr. Iris Abt for HERA-B (isa@mppmu.mpg.de).

*Disabled applicants with equal qualification will be preferred.
The Max Planck Society encourages especially women to apply for these kind of positions.*

PROGRAM DIRECTOR

SLOAN DIGITAL SKY SURVEY

The Sloan Digital Sky Survey (SDSS) invites applications for the position of Program Director. The Program Director will hold a permanent appointment and base of operations as a member of the scientific staff of the Fermi National Accelerator Laboratory.

The Program Director will supervise the operational phase of the survey at Apache Point Observatory and at Fermilab, with a primary goal of creating a survey quality photometric and spectroscopic database of the northern extragalactic sky. Intermediate milestones will include completion of science commissioning and achievement of stable science operations. It is also expected that the candidate will pursue a vigorous scientific program based on the SDSS data archive, and assume a leadership role in present and future directions of the Fermilab astrophysics effort. We intend to make this appointment at a senior level.

The SDSS achieved first light in May 1998, and will initiate survey operations in 1999. The project includes a dedicated 2.5-m wide-field telescope at Apache Point Observatory in New Mexico, a camera with an array including thirty 2048 X 2048 CCDs, and twin spectrographs capable of simultaneous measurement of over 600 spectra. The survey will construct a precision photometric catalog of some 100 million galaxies and 1 million quasars, from which approximately 1 million galaxies and 100,000 quasars will be selected for spectroscopy.

Data processing and archiving will be at Fermilab, where the astrophysics effort includes both a Theoretical Group and an Experimental Group, consisting of twelve staff scientists and eight postdocs, and has close ties to the Astronomy and Astrophysics Department of the University of Chicago. Fermilab is also involved in the Cryogenic Dark Matter Search and the Pierre Auger Cosmic Ray Project.

Qualifications include: a Ph. D. in astronomy, physics, or a related field; an international reputation for scientific leadership; and project management skills necessary to direct survey operations, to meet agreed-upon scientific requirements and schedule, and to exercise budget authority.

Applications, including a curriculum vita and a list of references, should be sent by December 15, 1998 to Edward W. Kolb [(630) 840-4695; rocky@fnal.gov]

Program Director Search Committee

c/o Edward W. Kolb

MS209

Fermilab

Box 500

Batavia, Illinois 60510

The SDSS is a collaboration of the University of Chicago, the Fermi National Accelerator Laboratory, the Institute for Advanced Study, the Japanese Participation Group, Johns Hopkins University, Princeton University, the United States Naval Observatory, and the University of Washington. Fermilab is operated by Universities Research Association, Inc. under contract with the Department of Energy.

EOE/M/F/D/V

ASSOCIATE DIRECTOR - ACCELERATOR DEVELOPMENT

SYNCHROTRON RADIATION CENTER (SRC)

UNIVERSITY OF WISCONSIN - MADISON

• The University of Wisconsin-Madison seeks an innovative and creative Accelerator Scientist to lead the accelerator activities of the Synchrotron Radiation Center (SRC). This position carries responsibility as a Senior Scientist for directing all activities relating to the ongoing development of the "Aladdin" storage ring, which operates at energies of 800 MEV and 1 GEV, and for its operation and maintenance. The Associate Director will report to the Executive Director of the Synchrotron Radiation Center and will be expected to coordinate and supervise the activities of four functional organizational groups (Accelerator Technology, Engineering, Controls, and Operations) through their respective Group Leaders. These groups are responsible for developing new initiatives in synchrotron technology for Aladdin, managing the 24-hour operation of the facility, and for maintaining and upgrading the injector, the storage ring, and supporting equipment.

• The Associate Director will be expected to: conduct accelerator research to improve the characteristics of the synchrotron radiation utilized by several state-of-the-art beamlines and experimental systems; consult and collaborate with other synchrotron facilities regarding improvements to the stability, lifetime, and brightness of the synchrotron source; participate in the development of new initiatives and grant proposals for funding by the National Science Foundation and other federal and industrial institutions; and work with the Director of Research to provide state-of-the-art research facilities that will satisfy scientific needs at the Center. In addition, the Associate Director will play a leading role in Aladdin development programs including: participating in the planning for a fourth insertion device to enhance the spectrum for particular research applications (currently there are three such devices), initiating and supervising studies to increase the beam current, increasing the stability of the beam in position and size, and to improve the lifetime of the beam while maintaining or reducing the beam emittance.

• Madison, Wisconsin, (<http://www.ci.madison.wi.us/>), ranked as the number one mid-size city in the nation, offers a small town yet progressive life style with an abundance of cultural, and recreational resources. Educational opportunities are among the best in the nation with a school district ranking in the top ten, the UW-Madison, and a quality private liberal arts college and technical college located in the city.

• For prompt consideration for this position, send curriculum vitae and reference list immediately to Mr. Clay Vinje, UW-Madison, Synchrotron Radiation Center, 3731 Schneider Drive, Stoughton, WI 53589, email: cvinje@psl.wisc.edu. Unless confidentiality is requested in writing, information regarding applicants must be released upon request. Finalists cannot be guaranteed confidentiality.

NFR Naturvetenskapliga forskningsrådet

Swedish Natural Science Research Council

invites applications for
A SENIOR RESEARCH POSITION in

Experimental Astroparticle Physics related to the AMANDA experiment (Ref: 702-236/98)

The Council's intention in creating these positions is to contribute to the recruitment of researchers and to the renewal of research in Sweden. The programme is aimed primarily at scientists with a doctorate and several years of post-graduate research. The positions are held for three plus three years and are placed at appropriate university departments in Sweden to be chosen in consultation between the candidates, NFR and the universities. The applicant is kindly requested to state where he wants the position to be placed. The universities decide on tenure. Duties can commence from July 1, 1999. The salary range will correspond to that of an assistant/associate professor (SEK 300 000-390 000 per year, i.e. USD 39 000-50 000 per year).

A curriculum vitae including a list of publications, a short research plan plus a description of scientific achievements (max 5 pages), and a maximum of 10 reprints of scientific papers should be appended. Other documents which the applicant wants to refer to could also be included. Four copies of the application and all appendices and reprints should be submitted.

Applications, quoting Ref. should reach the Swedish Natural Science Research Council, Box 7142, S-103 87 Stockholm, Sweden, by December 15, 1998.

Further information can be obtained from

Ms Natalie Lunin at the Secretariat of NFR, phone no. +46 8 454 42 32, e-mail-address Natalie.Lunin@nfr.se, fax no +46 8 454 42 50.

UNIVERSITY OF COPENHAGEN

Niels Bohr Institute for Astronomy, Physics and Geophysics

POST DOC IN EXPERIMENTAL PARTICLE PHYSICS

A position as post doc in experimental particle physics at NBI/AFG will be open from April 1, 1999.

The particle physics group is located at the Niels Bohr Institute, a department of the NBI/AFG, and the experiments are performed at CERN, Geneva, Switzerland, and at DESY, Hamburg, Germany. The group at NBI is involved in the LEP experiments ALEPH and DELPHI and in the ATLAS experiment planned for LHC all at CERN and in HERA-B at DESY.

The chosen candidate will be based in Copenhagen but is expected to participate in the building up of ATLAS and to contribute to the preparation of the physics analysis.

The position allows participation in the University teaching programs at all levels. The chosen candidate must be able to teach undergraduate physics courses in one of the Scandinavian languages or English.

The position is a renewable fixed term contract for two years. Terms of appointment and payment according to the agreement between the Ministry of Finance and AC. The annual salary depends on seniority, and the scale ends at a yearly salary of DKK 281 931. Possibly an annual non-pensionable increment of DKK 38.386 as an assistant research professor can be granted. The graduation date for an assistant professor should not exceed 8 years by appointment.

Deadline for applications is December 14, 1998, at noon. An expert assessment committee will evaluate the applications.

The application should be sent to:

**Professor Jørn Dines Hansen, Niels Bohr Institute,
Blegdamsvej 17, DK-2100 Copenhagen Ø,
Denmark (E-mail: dines@nbi.dk)**

U.S. DEPARTMENT OF ENERGY
PHYSICIST, GS-1310-14/15
OFFICE OF ENERGY RESEARCH
OFFICE OF HIGH ENERGY AND NUCLEAR PHYSICS
HIGH ENERGY PHYSICS DIVISION

GS-14: \$66,138 - \$85,978 per annum
GS-15: \$77,798 - \$101,142 per annum
PN-98-ER-76-22-220

The U.S. Department of Energy is seeking applicants for the position of Physicist within the High Energy Physics Division, Office of High Energy and Nuclear Physics, in the Office of Energy Research. The incumbent will serve as the Program Manager for experimental high energy physics activities relative to the oversight of large high energy physics accelerator research facilities conducting colliding beam experiments and utilizing large comprehensive particle detector facilities. The incumbent will be responsible for establishing goals and objectives as well as providing leadership and direction for this program with national and international scope and impact. Develops, recommends, and implements strategies, milestones, policies and near- and long-range plans for the operation of high energy physics laboratories and their accelerator and experimental facilities, both existing and under construction. Makes recommendations on the suitability performance, and utilization of high energy physics accelerator and experimental facilities, and assesses the capabilities and priorities of proposed new ones. A thorough knowledge and understanding of high energy physics, as well as extensive background and experience based on training and substantial research experience in the field are necessary.

Please refer to Vacancy Announcement PN-98-ER-76-22-220 (reference <http://www.hep.net/doehp/home.html>) for specific instructions on how to apply for this position. Applicants must comply with the instructions that are in the vacancy announcement in order to be eligible for consideration. Announcements can be faxed to you by calling 202-586-1705 or mailed to you by calling 301-903-1577.

Applications must be postmarked no later than December 28, 1998, and should be sent to the U.S. Department of Energy, HR-352, Room F-125, 19901 Germantown Road, Germantown, MD 20874-1290.

The Department is an equal opportunity employer.

Postdoctoral position in experimental high-energy physics

The experimental high energy physics group at the University of Hawaii invites outstanding applicants for a postdoctoral research associate position.

The successful candidate will participate in the BELLE experiment at KEKB the asymmetric e^+e^- B-factory that is currently under construction at the KEK laboratory in Japan. The primary goal of the experiment, which will begin recording data in early 1999, is to investigate CP violation in the decays of B mesons and conduct precision tests of the standard model. In addition to extraction of physics results from BELLE, he/she is expected to play a major role in the Hawaii group's R&D program on high resolution semiconductor vertex detectors which includes the development of pixel detector as well as the upgrade of the Belle silicon strip detector. A PhD in experimental high-energy physics is required and experience with modern electronics and computing techniques is desirable. The salary range is \$34,000 - \$50,000.

Applicants should submit a curriculum vitae and arrange for three letters or recommendation to be sent to **Professor Hitoshi Yamamoto, Department of Physics and Astronomy, The University of Hawaii, 2505 Correa Road, Honolulu, HI 96822.**

E-mail contact, hitoshi@uhheph.phys.hawaii.edu.

The University of Hawaii is an affirmative action/equal opportunity employer.

URGENT RECRUITMENT NEEDS?

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DESY announces several

"DESY-Fellowships"

for young scientists in experimental particle physics to participate in the research mainly with the HERA collider experiments H1 and ZEUS or with the fixed target experiments HERA-B and HERMES. New fellows are selected twice a year in April and October.

DESY Fellowships in experimental particle physics are awarded for a duration of two years with the possibility for prolongation by one additional year.

The salary for the fellowship is determined according to tariffs applicable for public service work (IIa MTV Ang.).

Interested persons, who have recently completed their Ph.D. and who should be younger than 32 years are invited to send their application including a résumé and the usual documents (curriculum vitae, list of publications, copies of university degrees) until 31 of March 1998 to **DESY, Personalabteilung - V2 -, Notkestraße 85, D-22607 Hamburg**. They should also arrange for three letters of reference to be sent until the same date to the address given above.

Handicapped applicants with equal qualifications will be preferred.

DESY encourages especially women to apply.

As DESY has laboratories at two sites, in Hamburg and Zeuthen near Berlin, applicants may indicate at which location they would prefer to work. The salary in Zeuthen is determined according to II a, BAT-O.

Faculty Position: Experimental Particle Physics/Astrophysics Case Western Reserve University

The Department of Physics at Case Western Reserve University is launching a search for an experimentalist in particle physics/astrophysics. This will be a tenure track or tenured position which may be made at any level commensurate with qualifications. While significant start up funds are expected, we are likely to focus on candidates who already have some outside support for their research program. The successful candidate will join a growing effort in particle physics/astrophysics in the newly renovated research facilities of the physics department. Current experimental efforts include underground dark matter detection, and an experimental programme at the Fermilab, Tevatron, RHIC, and the LHC. The expected start date is Summer 1999, but an earlier start date may be possible.

Interested candidates should apply to Particle Physics/Astrophysics Search Committee, Department of Physics, Case Western Reserve University, 10900 Euclid Ave., Cleveland, OH 44 106-7079. Questions can be directed by email to cet@po.cwru.edu.

CWRU is an affirmative action/equal opportunity employer.

POSTDOCTORAL RESEARCH POSITION THEORETICAL ASTROPHYSICS/COSMOLOGY THE OHIO STATE UNIVERSITY

Applications are invited for a postdoctoral research position in Theoretical Astrophysics/Cosmology to begin autumn, 1999.

The appointment is for two years with the second year dependent on available funding. Preference will be given to those applicants having research experience in cosmology and/or the interface between particle physics and astrophysics. Faculty members with interests in this area include Gary Steigman, Robert Scherrer, Terry Walker, Barbara Ryden, David Weinberg, Andy Gould, Richard Boyd, Marc Pinsonneault, and Stuart Raby.

Applications, including a vita and 3 letters of recommendation, should be sent to Professor Robert Scherrer, Department of Physics, The Ohio State University, 174 West 18th Avenue, Columbus, OH 43210. All application materials should arrive by January 1, 1999.

The Ohio State University is an affirmative action/equal opportunity employer.

NATIONAL INSTITUTE FOR NUCLEAR PHYSICS

I.N.F.N.

POST-DOCTORAL FELLOWSHIPS FOR NON ITALIAN CITIZENS IN THE FOLLOWING RESEARCH AREAS:

THEORETICAL PHYSICS (N. 10) EXPERIMENTAL PHYSICS (N. 20)

The I.N.F.N. Fellowship Programme 1998-99 offers thirty positions for non Italian citizens for research activity in theoretical or experimental physics.

Fellowships are intended for young post-graduates not more than 35 years of age at the time of deadline.

Each fellowship is granted for one year (which may start during the period from September to November 1999), and may be extended for a second year.

The annual gross salary is 36,000,000 Italian Lire, plus travel expenses for round trip transportation from the home fellows to the I.N.F.N. Section or Laboratory. Lunch tickets are provided for work days.

Candidates should submit an application form and a statement of their research interests, including three letters of reference.

Applications should be sent to I.N.F.N. not later than *October 15, 1998*.

Candidates will be informed by the end of March 1999 about the decisions taken by I.N.F.N.'S committee.

The successful applicants may carry out their research activity in Italy, at any of the following Laboratories and Sections of I.N.F.N.:

National Laboratories of Frascati (Rome), National Laboratories of Legnaro (Padua), National Laboratories of Gran Sasso (L'Aquila) and Southern National Laboratory (Catania).

I.N.F.N. Sections in the Universities of:

Turin, Milan, Padua, Genoa, Bologna, Pisa, Rome 'La Sapienza', Rome 'Tor Vergata', Naples, Catania, Trieste, Florence, Bari, Pavia, Perugia, Ferrara, Cagliari, Lecce and Rome 'Tre'.

Information, requests for application forms, and applications should be addressed to Personnel Office - Fellowship Service, National Institute of Nuclear Physics (I.N.F.N.) - Post Box 56 - 00044 Frascati (Rome) Italy.

NATIONAL INSTITUTE FOR NUCLEAR PHYSICS
THE PRESIDENT
(Prof. Luciano Maiani)

Tenure Track Assistant Professorship in Experimental High/Medium Energy Physics

Northwestern University

The Department of Physics and Astronomy is seeking outstanding candidates for a tenure track Assistant Professor position in experimental high or medium energy physics. We are currently involved in research at Fermilab, DESY, CERN, Thomas Jefferson Lab, Brookhaven National Lab, and developing research programs in physics at Northwestern (for more information, see <http://www.physics.nwu.edu/>). The appointment would start September 1999. The successful candidate will be expected to teach effectively at all levels. Applicants should submit a curriculum vitae, statement of research interests, and the names of four references to:

Prof. David A. Buchholz, Chair, Department of Physics and Astronomy, Northwestern University, Evanston, IL 60208-3112

Applications should be received by December 15, 1998 to receive full consideration. Members of minority groups and women are especially encouraged to apply.

POSITIONS AT THE NSCL MICHIGAN STATE UNIVERSITY

The National Superconducting Cyclotron Laboratory at Michigan State University has openings for top quality candidates to be post-doctoral fellows and assistant research professors. The appointments are typically renewable up to three years and are for research in nuclear or accelerator physics, both experimental and theoretical. The experimental nuclear physics program includes studies approaching the driplines with radioactive beams, nuclear astrophysics, and nucleus-nucleus reaction dynamics using the K1200 cyclotron system that can produce heavy ion beams in the 10 - 200 MeV/nucleon range.

Further descriptions of the research opportunities can be found on our web-site <http://www.nsl.msu.edu/>. Please send a CV with a list of publications and arrange for three letters of reference to be sent directly by post to Prof. D.J. Morrissey, NSCL, Michigan State University, East Lansing, MI, 48824, or e-mail to morrissey@nsl.msu.edu

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The Institut Laue-Langevin is an international research institute which operates a high-flux neutron research reactor, which is used to conduct experiments on the structure and dynamics of condensed matter (with applications in physics, chemistry, biology and materials science), as well as in the fields of nuclear and elementary-particle physics.

RESEARCH SCIENTIST

Time of Flight and High Resolution Group

The Science Division currently has an opening for a scientist to work, on the multichopper time-of-flight instrument IN5.

The position is best suited for a young postdoctoral scientist having an interest in dynamical studies either in condensed matter systems or in biological systems. The successful candidate will be assigned the task of assisting ILL's visiting scientists in conducting their experiments and taking charge of the operation and improvement of the instrument.

More experienced scientists on secondment may also be considered.

Further information can be obtained by contacting the Group leader Dr. A.J. DIANOUX Tel +33 4 76 20 72 06 or e-mail dianoux@ill.fr

Applications (with curriculum vitae, list of publications and the names of two academic referees) should be sent no later than 30 November 1998 to: **The Associate Director (Science Division)** quoting reference C-98/17,

NETWORK TECHNICIAN

The Projects and Techniques Division is looking for a HND/HNC Network Technician for its Computing Service.

Duties will include supervising the ILL internal and external networks, as well as maintaining network equipment, troubleshooting and repairs.

You will also be involved with user support for the installation of equipment on the network and the installation and development of network monitoring tools.

Experience of programming in C. Basic knowledge of Windows NT and UNIX

For further information please contact Mr Alain Barthélemy, Tel.: +33 4 76 20 70 25 or e-mail: barthelemy@ill.fr

Applications, with curriculum vitae, list of publications and the names of two academic referees should be sent no later than 30 November 1998 to:

The Head of Personnel quoting reference C98/16.

For both positions we offer an attractive salary, and assistance towards relocation expenses.

**INSTITUT LAUE-LANGEVIN B.P. 156
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