

People and things

Distinguished UK science journalist and TV producer Nigel Calder (left) with Scientific American Editor Jonathan Piel at a Conference of the International Federation of Science Editors at the Mario Negri Sud Centre, Italy, in July. The meeting looked at communications objectives common to the whole range of science.

On people

Recent awards by the American Astronomical Society include the new Annenberg Foundation Award, to Carl Sagan for his worldwide promotion of astronomy through TV, books and articles, and the biennial Tinsley Prize, to Robert Dicke of Princeton for his contributions to astronomical measurement techniques.

August saw the 80th birthday of Wolfgang Paul of Bonn, former Director at DESY, Jülich and CERN, who shared the 1989 Nobel Prize.

The Andrew Sessler Symposium on the Physics of Beams, to be held at Berkeley on 6 December, will mark the 65th birthday of one of this generation's outstanding accelerator physicists and a former Director of the Lawrence Berkeley Laboratory.

DOE Office of Energy Research

Martha Krebs, associate director for planning and development at Lawrence Berkeley Laboratory, becomes Director of the Office of Energy Research of the US Department of Energy, succeeding Will Happer Jr.

ICTP Dirac Awards

The 1993 Dirac medals of the International Centre for Theoretical Physics, Trieste, have been awarded to Sergio Ferrara of CERN's Theory Division, Daniel Z. Freedman of MIT and Peter van Nieuwenhuizen of the State University of New York, Stony Brook, for their discovery of the theory of supergravity in 1976 and major contributions to the theory's subsequent development. The ICTP Dirac medals were insti-



tuted in 1985 and are awarded annually on 8 August, Dirac's birthday, for contributions to theoretical physics, but are not awarded to Nobel or Wolf prizewinners.

Perkinsfest

More than 100 friends and colleagues from across the world met at Oxford on 12-13 July to pay tribute to Don Perkins, who retires this year as Professor of Elementary Particle Physics. His career spans more than 50 years of particle physics, and mirrors the changing emphasis in the subject. He began research in the heady days of cosmic-ray discoveries in the late 1940s, proceeded to accelerator experiments, notably on neutrino studies of weak and quark interactions, and more recently has returned again to non-accelerator experiments, to search for proton decay and to study cosmic neutrinos. The presentations at the "Perkinsfest" reflected this long and illustrious career, with contributions

from a variety of experts, beginning with Peter Fowler, who described the early days of cosmic ray physics (with a delightful film of balloon launches), and finishing with a look to the future by CERN Director General designate Chris Llewellyn Smith.

Donald Kerst 1911-1993

Betatron pioneer Donald Kerst died in August. While the idea of accelerating particles by the electric field set up by a changing magnetic field had been looked at previously, notably by Rolf Wideröe, injection remained a problem until Donald Kerst built the first major operational such machine, reaching 2 MeV in 1941. This opened a first route to electron acceleration, avoiding the relativistic difficulties of conventional cyclotrons.

After Manhattan Project work Kerst became Technical Director of the Midwest University Research Association, and went on to join General Dynamics before returning to physics at Wisconsin in 1962.

UNIVERSITÄT WÜRZBURG

An der Fakultät für Physik und Astronomie der Universität Würzburg ist zum 01.10.1994 die Stelle

einer Universitätsprofessorin / eines Universitätsprofessors der BesGr. C 4 (Lehrstuhl) für Theoretische Physik

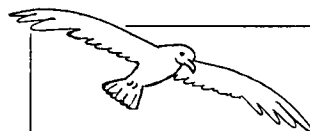
wieder zu besetzen.

Zu den Aufgaben gehört, das Fachgebiet in Forschung und Lehre zu vertreten. Gesucht werden Bewerberinnen/Bewerber mit der Forschungsrichtung **Elementarteilchentheorie/Quantenfeldtheorie**.

Erwartet werden die Beteiligung an den Lehraufgaben der Fakultät im Fach Theoretische Physik und die Bereitschaft zur Zusammenarbeit mit anderen Arbeitsgruppen.

Einstellungsvoraussetzungen sind abgeschlossenes Hochschulstudium, pädagogische Eignung, Promotion und Habilitation. Bewerber dürfen das 52. Lebensjahr zum Zeitpunkt der Ernennung noch nicht vollendet haben. Schwerbehinderte werden bei gleicher Eignung bevorzugt berücksichtigt.

Bewerbungen sind mit den üblichen Unterlagen (Lebenslauf, wissenschaftlicher Werdegang, Zeugnisse, Urkunden, Schriftenverzeichnis und Verzeichnis der Lehrtätigkeit) **bis zum 02. November 1993** einzureichen beim Dekan der Fakultät für Physik und Astronomie der Universität Würzburg, Am Hubland, 97074 Würzburg, Germany.



BROOKHAVEN
NATIONAL LABORATORY

PHYSICS DEPARTMENT

Brookhaven National Laboratory is seeking a scientist with an advanced degree in experimental physics (preferred) or computer science to play a significant role in developing software for data acquisition for STAR, an experiment at the Relativistic Heavy Ion Collider based on a TPC. Data rates and event sizes at STAR present challenges to data acquisition hardware which will be met by a network of 600 RISC processors. It is expected that the successful candidate will share responsibility for designing and implementing the tools necessary to manage this network.

Experience in implementing complex data acquisition systems involving multiple processors and high data rates is required. The position also requires familiarity with Fortran and C, object-oriented languages, database management, code management, and embedded processors.

Candidates should submit a curriculum vitae and the names of three references to: Dr. M.J. LeVine, Physics Department, Building 510D, Brookhaven National Laboratory, Associated Universities, Inc., P.O. Box 5000, Upton, Long Island, NY 11973-5000. Equal opportunity employer m/f/d/v.

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Post-doc position Max-Planck-Institute of Physics Munich, Germany

The Max-Planck-Institute of Physics in Munich invites applications for a post-doc position in the fields of instrumentation and detector development, sponsored by the Human Capital and Mobility Programme of the Commission of the European Communities.

Specific areas of interest are the development of superconducting phase-transition thermometers for the detection of Dark Matter, silicon microstrip and pixel detectors, cosmic air-shower detectors, liquid-argon calorimeters and high-precision gaseous wire chambers.

Interested persons originating from a European Community Member State other than Germany, or from an associated state, and holding a PhD or equivalent in physics, should send a curriculum vitae, a list of publications, a summary of past and present research interests, and the names of three referees to:

Frau Ursula Grenzmann
Max-Planck-Institut für Physik
Postfach 40 12 12
Föhringer Ring 6
D-80805 MÜNCHEN

(Email URG@dmumpiwh.bitnet)

where also further information can be obtained. Applications should be sent as soon as possible, at the latest by 15 October 1993.

GSI DARMSTADT

Die Gesellschaft für Schwerionenforschung mbH, Darmstadt (GSI), eine von der Bundesrepublik Deutschland und dem Land Hessen getragene Großforschungseinrichtung, schreibt die Stelle eines/einer

Leitenden Wissenschaftlers/in

(Bes.-Gr. C4 BBesG)
aus.

Der/Die Stelleninhaber/in soll den neu-geschaffenen Bereich "Wissenschaftlich-Technische Infrastruktur" mit etwa 180 Mitarbeitern leiten. Der Bereich enthält die Zentrale Datenverarbeitung, Experiment-Elektronik, Detektorentwicklung, Dokumentation, Zentrale Technik mit Konstruktion und Werkstätten und Betriebstechnik. Erwartet werden insbesondere Erfahrungen im Aufbau und Betrieb großer Experimente sowie Organisations- und Führungsqualitäten. Der Leiter des Bereichs ist Mitglied des Wissenschaftlichen Direktoriums und wird laut Satzung auf 5 Jahre berufen; Wiederberufung ist möglich.

Bewerbungen mit den üblichen Unterlagen sind bis zum 31. Oktober 1993 zu richten an die

**Geschäftsführung der
Gesellschaft für Schwerionenforschung mbH
Postfach 11 05 52
D - 64 220 Darmstadt, Tel. (06151) 359 648/9**

Nikolaus Hamann 1952-93

Nikolaus Hamann, a leading physicist at CERN's LEAR low energy antiproton ring, died on 19 August. His enthusiasm and energy brought him the responsibility of physics coordinator for LEAR and the PS machine in 1992.

Los Alamos revisited

Is there any interest in yet another book on the building of the atomic bomb? Lilian Hoddeson, Paul W. Henriksen, and Catherine Westfall have put together a "technical history of Los Alamos during the Oppenheimer years, 1943 -1945" (Cambridge University Press ISBN 0 521 44132 3) under the title "Critical Assembly". Given its avowed aim of covering the much-trodden ground with technical intent, it is not surprising that the writing is rather dour. But that does not extinguish the extraordinary fascination of this piece of history.

The extent to which the Los Alamos team was feeling in the dark comes across very well. Crucial issues were unknown - like the physics of spontaneous fission in plutonium which could have caused premature ignition or the technology of achieving a symmetric implosion. The combination of intense motivation, brilliant scientists and almost unlimited money crushed all problems and completed the project in twenty-seven months. It is easy to see how, once the motivation was in place with the deep conviction that the future of civilization depended on being first to the Bomb, the most humane of scientists were swept along by the intellectual and technical challenges.

The book is of particular interest to the particle physics community because so many of the great personalities of the post-war era in our field cut their theoretical and experimental teeth on the atomic bomb project. From Richard Feynman to Bob Wilson, from Victor Weisskopf to Luis Alvarez ... they were there. The book also brings out what an important step the project was in the rise of the methodology of Big Science. Science practice and managerial procedures from industry meshed with the academic world as they had never done before. Los Alamos was the cradle of more than the Bomb.
BS

The Principles of Circular Accelerators and Storage Rings, by Philip J. Bryant and Kjell Johnsen (Cambridge University Press - ISBN 0 521 35578 8, £55/\$100).

The reader of this book can expect, from the identity of the authors, a work of solid excellence and he will not be disappointed. The behaviour of charged particles in circular machines, singly or in dense space charges, is covered with skill and clarity and the student is relieved of the necessity for delving into the 306 references tabulated at the end of the book.

Only two modest suggestions for improvement: design sketches of accelerator types and components do not convey to the beginner as good a feeling for these devices as would a few photographs; a few numerical substitutions in the formulae of earlier chapters might give the beginner a more down-to-earth appreciation of the theory.

These comments detract in no way from the quality of this really comprehensive opus. The authors have

many years of teaching experience in the CERN Accelerator School; their appreciation of their students' difficulties is evident in their lucid presentation of the complex problems presented by alternating gradient machines.

John Blewett

(Kjell Johnsen was one of the early members of CERN; in design work for the PS he was responsible for originating some of the elegant treatments presented in this book. He was also Founding Head of the CERN Accelerator School. Philip Bryant had a number of key responsibilities at CERN's Intersecting Storage Rings and took over from Johnsen as Head of the CERN Accelerator School.)

EPAC94

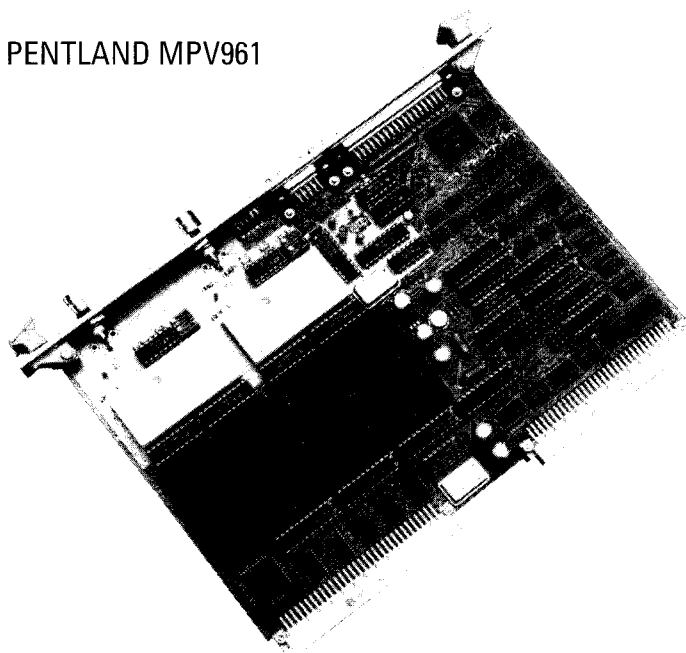
The fourth European Particle Accelerator Conference (EPAC) will take place at the Queen Elizabeth II Conference Centre, London, from 27 June to 1 July 1994.

Organized jointly by Rutherford Appleton Laboratory and Daresbury Laboratory, the conference will provide an overview of research, technology and special applications in the field of accelerators. In the planning of the programme particular attention will be paid to high-intensity accelerators. The deadline for the submission of Abstracts at the Scientific Secretariat is 15 December 1993.

An industrial exhibition, as well as an exhibition of CERN's proposed LHC Project, will be held during part of the conference and the conference programme will include a special session whose theme will be the

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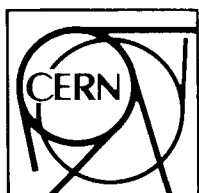
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How to visit CERN

Comment visiter le CERN

Organized visits take place only on Saturdays, at 9.30 a.m., and/or 2.30 p.m. The visits last about three hours and are free. The minimum age limit is 16 years.

Les visites commentées ont lieu seulement le samedi, à 9 h. 30 et/ou à 14 h. 30. Elles durent environ trois heures et sont gratuites. La limite d'âge minimum imposée est de seize ans.

Please write or call:
Ecrire ou téléphoner:

CERN
Visits Organization / Organisation des visites
1211 GENEVA 23 Switzerland
Tel. 022/767 84 84
Telex 419 000 CER

transfer of technology from accelerator laboratories to industry.

Further general information from Mrs Susan Humphreys, EPAC94 Secretariat, Building R71, RAL, Chilton, Didcot, Oxon, OX11 0QX, Great Britain. Fax: +44 235 44 6665. Information concerning the scientific programme may be obtained from Mrs Christine Petit-Jean-Genaz, EPAC Executive Secretary, CERN-AC, 1211 Geneva 23, Switzerland. Fax: +41 22 767 86 66.

HEPAP

The new makeup of the US High Energy Physics Advisory Panel (HEPAP) is: Stanley G. Wojcicki (Stanford) Chairman, Robert K. Adair (Yale), Edmond L. Berger (Argonne), Jonathan M. Dorfan (SLAC), Mary K. Gaillard (Berkeley), Frederick J. Gilman (SSC), Donald L. Hartill (Cornell), Derek I. Lowenstein (Brookhaven), Roberto D. Peccei (UCLA), Claudio Pellegrini (UCLA), Pierre M. Ramond (Gainesville, Florida), Don D. Reeder (Madison, Wisconsin), Melvyn J. Shochet (Enrico Fermi Institute), A. J. Stewart Smith (Princeton), Alvin V. Tollestrup (Fermilab), Sau Lan Wu (Madison, Wisconsin).

Spin physics

The next International Symposium on High Energy Spin Physics and Polarization Phenomena in Nuclear Physics will be held from 15-22 September 1994 in Bloomington, Indiana, USA.

Topics include the spin/polarization aspects of - tests for physics beyond

the standard model, quark effects in hadrons and nuclear matter, hadron structure and the spin crisis, fundamental symmetries, inclusive and exclusive particle production, nucleon-nucleon scattering, few-body scattering and reactions, electroweak interactions, nuclear reactions and structure, nucleus-nucleus collision mechanisms and the technology of polarized ion sources, polarized solid and gas targets, polarimetry, spin in accelerators and storage rings.

Contact: conference secretary - Ms. Janet Meadows, Indiana University Cyclotron Facility, 2401 Milo B. Sampson Lane, Bloomington, IN 47408, USA. Phone: 812-855-9365, fax: 812-855-6645, e-mail internet: SPIN94@VENUS.IUCF.INDIANA.EDU bitnet: SPIN94@IUCF

Superconducting radiofrequency cavity breakthrough - 25 MV/m accelerating field

The TeV Superconducting Linear Accelerator - TESLA - approach is a very attractive option for future TeV electron-positron linear colliders (November 1992, page 23). One of the obstacles has been the accelerating gradient of 25 MV/m (continuous wave - cw) required from the superconducting cavities. This goal has now been achieved in a five-cell niobium cavity tested at Cornell, in the framework of a collaboration with DESY and Fermilab.

Two key approaches were essential to attain the gradient - high purity niobium for thermal stability, and high

pulsed radiofrequency processing (HPP) to destroy field emission sources that otherwise absorb rf power and lower the resonating cavity's quality factor (Q).

With 150-microsecond pulses at a peak klystron power near 1 MW, a surface electric field of 84 MV/m suppressed field emission. After the pulsed conditioning stage, it became possible to operate cw at a maximum surface field of 66 MV/m (accelerating 25 MV/m), at a Q of 2×10^9 .

With the optimized cell geometry now developed for TESLA, the same surface field opens the way to an accelerating field of 32 MV/m! The focus of this development is soon to shift from Cornell to DESY, where construction of a TESLA test facility is well underway.

Special November issue

November's CERN Courier will be a special issue on Neutrino Physics, featuring commissioned articles and including contributions from Laboratories active in this sector.

**ION SOURCE STAFF PHYSICIST
NATIONAL SUPERCONDUCTING
CYCLOTRON LABORATORY
MICHIGAN STATE UNIVERSITY**

The National Superconducting Cyclotron Laboratory at Michigan State University is seeking to fill the position of Ion Source Staff Physicist. The NSCL has a staff of approximately 130 people and is funded by the National Science Foundation for research in basic nuclear physics, accelerator physics, and related instrumentation R&D. The ECR Ion Source Staff Physicist is to become a member of the ion source group at the NSCL. Duties include developing beams of highly charged positive ions for cyclotron operation, design and construction of advanced ion sources and research directed towards understanding ECR ion sources. Requirements include a PhD in physics related to ECR ion sources and a minimum of four years experience operating and developing ECR ion sources. Knowledge of transport of space charge limited beams and low voltage injection into accelerators as evidenced by publications in that field or relevant work experience is required.

Positions in the NSCL Continuing Appointment system parallel tenure system ranks at MSU. Applicants should send resume by **November 1, 1993** to Ms. Chris Townsend, Laboratory Administrator, Cyclotron Laboratory, Michigan State University, East Lansing, MI 48824-1321. Michigan State University is an affirmative action/equal opportunity institution. Women and minorities are especially encouraged to apply.

**Faculty Opening in Physics
University of California
at Berkeley**

The Physics Department of the University of California at Berkeley, pending budgetary approval, intends to make one (or more) faculty appointment(s) effective July 1, 1994. Candidates from all fields of physics will be considered, but those in the fields of atomic physics, experimental particle physics and particle theory are especially encouraged to apply. Appointment(s) at the tenure-track assistant professor level are preferred, but tenure level appointments will also be considered.

Please send a curriculum vitae, bibliography, statement of research interests, and a list of references to **Professor Herbert Steiner, Chairman, Department of Physics, University of California, Berkeley, CA 94720**, before December 10, 1993. Applications submitted after the deadline will not be considered. The University of California is an Equal Opportunity, Affirmative Action Employer.

**Research Associate position
Max-Planck-Institute of Physics
Munich, Germany**

The Max-Planck-Institute of Physics in Munich invites applications for the position of a Research Associate. The position is primarily for work on the ALEPH experiment at LEP, however an active interest in the ATLAS project of the Institute would be expected.

The contract will be limited to two years, with the possibility of extension up to five years.

Candidates should have good knowledge of the hardware aspects and data analysis of modern experiments in particle physics, and should hold a PhD or equivalent in physics. They should send a curriculum vitae, a list of publications, a summary of past and present research interests, and the names of three referees to:

Frau Renate Saffert
Max-Planck-Institut für Physik
Postfach 40 12 12
Föhringer Ring 6
D-80805 MÜNCHEN
(Email REL@dmpmipiw.bitnet)

where also further information can be obtained. Applications should be sent as soon as possible, at the latest by 30 November 1993.



EPAC94

FOURTH EUROPEAN PARTICLE ACCELERATOR CONFERENCE
Queen Elizabeth II Conference Centre, London,
27 June to 1 July 1994

After Rome, Nice and Berlin, the fourth conference in the series will be held at the prestigious Queen Elizabeth II Conference Centre, opposite Westminster Abbey and only a short walk from the Houses of Parliament, in the city of Westminster, London.

The conference aims to provide a comprehensive overview of research, technology and special applications in the field of accelerators. In the planning of the programme special emphasis is placed on excellent review papers and particular attention will be paid to high-intensity accelerators. The programme will include invited talks, contributed papers, oral poster presentations and poster sessions. Parallel sessions will be kept to a minimum.

Papers from the whole field of accelerators are solicited, including low- and high-energy machines and accelerators for medical and industrial purposes. The deadline for the receipt of Abstracts at the Scientific Secretariat is 15 December 1993.

An industrial exhibition, as well as an exhibition of CERN's proposed LHC Project, will be held during part of the conference and the conference programme will include a special session whose theme will be the transfer of technology from accelerator laboratories to industry. Information regarding the exhibition and seminar may be obtained from the Exhibition Manager.

Local organization is in the hands of the RAL and Daresbury laboratories. The registration fee is £225 if received before the deadline of 27 April 1994 and is increased to £250 thereafter. Due to the huge demand for accommodation in London in June and July, requests for accommodation should also be made prior to this date. Complete information concerning registration and accommodation may be obtained from the Conference Secretariat.

World-Wide Web (W3) and Internet Gopher will be used as additional means of disseminating information on the conference as it becomes available. Indications as to how to use these systems, as well as complete information on the conference are given in the First Announcement and Call for Papers available from the Conference Secretariats.

EPAC94 Conference Secretariat
Mrs. Susan Humphreys
Rutherford Appleton Laboratory
Chilton, Didcot
UK - Oxon OX11 0QX
Tel. +44 235 44 67 50
Fax. +44 235 44 66 65

Scientific Secretariat
Mrs. Ch. Petit-Jean-Genaz
EPAC Executive Secretary
CERN - AC
CH - 1211 Geneva 23
Tel. +41 22 767 3275
Fax. +41 22 767 86 66

Exhibition Secretariat
Neil Marks
Industrial Exhibition Manager
Daresbury Laboratory
Daresbury, Warrington
UK - Cheshire WA4 4AD
Tel. +44 925 603 148/432
Fax. +44 925 603 196

NORDITA
COPENHAGEN
PROFESSORSHIP IN THEORETICAL PHYSICS

NORDITA, The Nordic Institute for Theoretical Physics in Copenhagen, announces a tenured full professorship in theoretical physics (after Ben Mottelson). Research at the institute is at present carried out mainly in astrophysics and cosmology, complex systems (including neural nets), condensed matter physics, high energy physics and nuclear physics. In filling the vacant position the Institute wishes to maintain close links between the subfields.

NORDITA's primary responsibility is to support physics in the Nordic countries on the basis of the research programme in Copenhagen and through an extensive international collaboration in theoretical physics, especially with Nordic institutes. The scientific staff includes six positions as permanent professors, four positions as assistant professors, and Nordic assistant professors. In addition there is a programme for Nordic graduate students and postdoctoral fellows.

The professor should contribute to the activity of the institute by initiating and directing research in theoretical physics. An essential part of this is the supervision of the work of research fellows. The professor is expected to maintain and strengthen the scientific collaboration between NORDITA and both theoretical and experimental research groups in the Nordic area. In addition, the professor has important duties in connection with proposing and organizing symposia, workshops and the visitors' programme at NORDITA.

NORDITA is supported by the five Nordic countries - Denmark, Finland, Iceland, Norway and Sweden - and is located at the Niels Bohr Institute of Copenhagen University, and there is close co-operation between the two institutes.

The appointment is from September 1, 1994, but somewhat earlier or later dates may, if necessary, be arranged. Those interested in the appointment should send a curriculum vitae, a list of publications and the names of three referees to the Director, NORDITA, Blegdamsvej 17, DK-2100 Copenhagen Ø, Denmark. Telephone: +45-35 32 55 00. Telefax: +45-31 38 91 57. E-mail: nordita@nordita.dk The deadline for receipt of applications is November 15, 1993. Those wishing to recommend suitable candidates are urged to contact the Director.

UNIVERSITY OF MONTREAL

Post-Doctoral Position in Experimental
Particle Physics

Applications are invited for a post-doctoral position in experimental particle physics for participation in the OPAL collaboration at LEP. The successful candidate will be responsible for data analysis and maintenance of the various systems of the Z chambers, one of the subdetectors of OPAL. She/he will also be expected to work closely with graduate students and to contribute to the running of the OPAL detector. The position requires a permanent presence at CERN. Candidates should send their resume and three letters of reference by November 1st, 1993 to:

Hannes Jeremie
Laboratoire de Physique Nucléaire
Université de Montréal
Case postale 6128, succursale "A"
Montréal, Québec
Canada H3C 3J7
e-mail: JEREMIE@LPS.umontreal.ca
telefax: (514) 343-6215;
phone: (514) 343-6729

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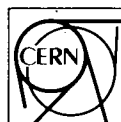
zu besetzen. Zu den Aufgaben gehört die Vertretung des Faches in Forschung und Lehre. Der Lehrstuhl ist der experimentellen Elementarteilchenphysik gewidmet.

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

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

Die Universität München ist bestrebt, den Anteil der Wissenschaftlerinnen zu erhöhen, ihre Unterlagen einzureichen.

Bewerbungen sind mit den üblichen Unterlagen (Lebenslauf, Zeugnisse, Urkunden, Schriftenverzeichnis) bis **30. November 1993** beim **Dekanat der Fakultät für Physik der Ludwig-Maximilians-Universität München, Schellingstraße 4/IV, 80799 München**, einzureichen.



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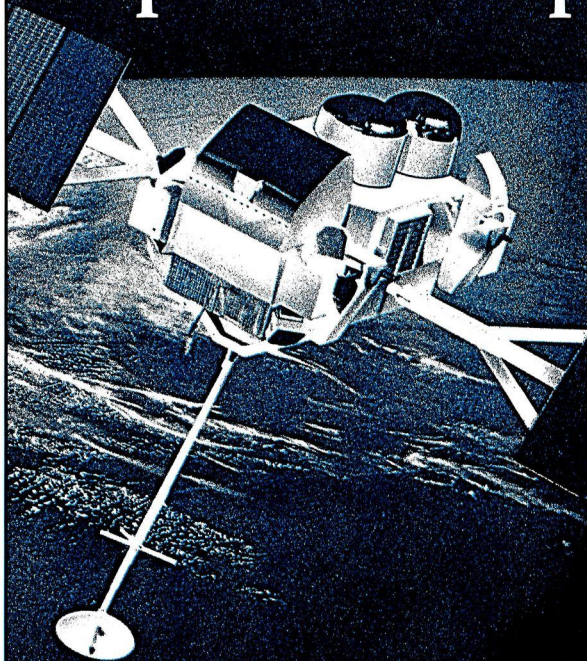


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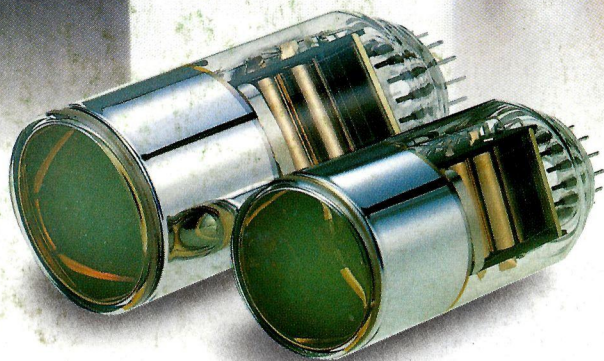
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France: Hamamatsu Photonics France S.A.R.L. TEL: 33-(1) 49 75 56 80 FAX: 33-(1) 49 75 56 87
United Kingdom: Hamamatsu Photonics UK Limited. TEL: 44-81-367-3560 FAX: 44-81-367-6384

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