
People and things

The 'Poland at CERN' industrial and technological exhibition at CERN was opened on 28 November by Polish Deputy Prime Minister A. Luczak (standing just to the left of the placard). With Poland having become CERN's first Member State from Central Europe in 1991, this was a new addition to the list of member state industrial exhibitions which feature regularly at CERN.

(Photo CERN EM 21.11.95)

CERN Council

At its meeting in December, CERN's governing body, Council, decided to create a new Engineering Support and Technologies (EST) Division at CERN grouping together activities of the present Mechanical Technologies (MT) Division plus additional support activities from both the accelerator and research sector. Its Leader is Dietrich Güsewell.

Council also elected Jacques Lefrançois of Orsay as Chairman of the Scientific Policy Committee for one year from 1 January 1996, succeeding Günther Wolf of DESY. Jerome I. Friedman (MIT) was appointed as a member of the Scientific Policy Committee for 3 years. Karl Gaemers (NIKHEF, Netherlands) was appointed as a member of the Scientific Policy Committee for 3 years from 1 July 1996.

CEBAF on line for physics

After a decade of design, R&D, construction, and commissioning, the CEBAF superconducting radio-frequency accelerator at Newport News, Virginia, is on-line for physics. The first experiment, "Energy Dependence of Nucleon Propagation in Nuclei as Measured in the (e,e'p) Reaction," began at 03.30 on 15 November.

Users are delighted with the electron beam. In production running, the recirculating accelerator is delivering nearly 2 coulombs per day of two-pass, 1645 MeV continuous wave (cw) beam at experimenter-requested currents between 5 and 20 microamperes. Earlier in November, stable and reliable five-pass cw



operation at 4 GeV - as originally specified - was demonstrated over several days, reaching 100 kW beam power with average currents up to 24 microamperes. Accelerating cavity gradient has averaged well above 6 MeV/m; specification is 5 MeV/m. Energy spreads have been measured at better than 10^{-4} . With two linacs, nine recirculation arc beam lines, over 2200 magnets, and 120,000 input/output points, machine complexity is comparable to that of LEP. Up time is above 80% and getting better. A full report will appear in the next issue of the Courier.

Dirac memorial

On 13 November, a plaque commemorating illustrious theorist Paul Dirac (1902-84) was dedicated in London's Westminster Abbey, near the grave of Isaac Newton. Beforehand a meeting at the Royal Society celebrated some of Dirac's contributions to physics. The speakers were President of the Royal

Society Sir Michael Atiyah ('the Dirac equation and geometry'), David Olive of Swansea ('Monopoles'), Maurice Jacob of CERN ('Antimatter') and Abraham Pais of Rockefeller ('Paul Dirac: aspects of his life and work')

Meanwhile in St. Maurice, Valais, Switzerland, home of Dirac's ancestors, the Paul Dirac Garden is another lasting monument to the one of the greatest physicists of the century.

American Physical Society Awards 1996

Among the American Physical Society Awards for 1996, Fermilab theorist William Bardeen receives the J.J. Sakurai Prize for Theoretical Particle Physics for his work in understanding the axial anomaly and his contributions to perturbative quantum chromodynamics.

The companion W.K.H. Panofsky Prize in Experimental Particle Physics goes to Gail Hanson of Indiana and Roy Schwitters of Austin,

Monica Dirac (centre) and her family at the Royal Society, London, prior to the dedication of a plaque commemorating her father, Paul Dirac (1902-84) in London's Westminster Abbey.
(Photo M. Jacob)



Texas, for their pioneer observation of hadron jets in electron-positron collisions using the Mark I detector at SPEAR in the mid-1970s, and for their polarization studies which demonstrated how quarks carry spin.

The Tom W. Bonner Prize in Nuclear Physics goes to John Dirk Walecka of CEBAF and the College of William and Mary for his theoretical guidance in exploiting weak and electromagnetic nuclear probes and for his contributions to nuclear physics.

The Nicholson Medal for Humanitarian Service goes to Yuri Orlov of Cornell for uniting his love of physics with an intense dedication to human rights. With the late Andrei Sakharov, Orlov was a strong opponent of political oppression.

The George E. Pake Prize goes to Charles Shank, currently Director of the Lawrence Berkeley National Laboratory.

The Julius Edgar Lilienfeld Prize goes to Kip Thorne of Caltech for his work in quantum cosmology and for conveying the excitement of this work to wider audiences.

The Dissertation in Beam Physics

Award goes to Daniel Abell of Maryland his contributions in applying mathematical principles to tracking in accelerators.

The Robert R. Wilson Prize goes to Albert Hofmann of CERN (see page 30).

'Retirements': Torleif Ericson...

Formally retired from CERN since the end of November is nuclear theorist Torleif Ericson, one of the last pioneer members of CERN's Theory Division to reach this career milestone. One of the few specialists at CERN in nuclear, rather than particle, matters, he has ensured that mainstream nuclear physics has always had a place at CERN, while profiting from it to apply to his subject new ideas emerging from the particle side.

Beginning his career as a nuclear theorist under Ben Mottelson at Nordita in Copenhagen, he completed his research degree at Lund in Sweden, going then to MIT, where he made his first classic contribution, on statistical fluctuations

in nuclear behaviour, a forerunner of what is now fashionably termed quantum chaos.

Many notable contributions followed, sometimes with his wife, Magda, including the famous 'Ericson-Ericson-Lorentz-Lorenz' effect on the behaviour of pions in nuclear matter.

He instigated the first 'PANIC' (Particles and Nuclei International Conference) at CERN. These meetings went on to become a regular feature of the international physics scene, providing a valuable bridge between the adjacent intellectual continents of particle and nuclear physics.

In an example of continental drift, the nuclear and particle physics sectors were once indistinguishable, but as time passed started to move apart. However in recent years this drift has been stopped, if not even reversed, with quark nuclear effects discovered at CERN using muon beams, the CERN heavy ion programme and with the LEAR low energy antiproton ring. Torleif Ericson has carried out, and will continue to carry out, an important role as custodian of the bridge linking the particle and nuclear physics continents.

As honorary professor in Sweden, he has spent part of his time at Uppsala, a practice which he plans to continue, while remaining most of the time at CERN.

...and Klaus Winter

A characteristically thoughtful symposium at CERN on 6 December marked the formal retirement of distinguished experimentalist Klaus Winter, whose careful appraisals are much in demand for resolving

TENURE TRACK POSITION
in Experimental Particle Physics

Department of Physics and Astronomy
University of Victoria

The University of Victoria Department of Physics and Astronomy invites applications for a tenure-track position at the rank of Assistant Professor. The position is in the area of experimental particle physics. Applicants are expected to have an established research record and a commitment to undergraduate and graduate teaching.

The particle physics group is currently participating in the ATLAS and OPAL experiments at CERN, rare kaon decay experiments at BNL and the SLAC B factory. Significant research activities are directed towards hadronic end cap calorimeter development for the ATLAS experiment at the LHC, data analysis of LEP I results from OPAL, data collection and analysis at LEP II and chamber development for BABAR. The nearby TRIUMF laboratory affords the opportunity for involvement in the physics program and provides facilities for technological support and test beams for detector development not normally present in a university department.

The University of Victoria is an employment equity employer and encourages applications from women, persons with disabilities, visible minorities, and aboriginal persons.

An application with curriculum vitae, publication list and the names and addresses of a least three referees should be sent to:

Dr. C.J. Pritchett, Chair
Department of Physics and Astronomy
University of Victoria
P.O. Box 3055
Victoria, BC V8W 3P6
Canada

Applications will be accepted from qualified Canadians and non-Canadians.

Applications will be accepted until 15 February 1996.

See our home page at <http://www.phys.uvic.ca/> for further information about the Department.

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please see page III

OPPORTUNITIES IN THE BROOKHAVEN
NATIONAL LABORATORY'S SYNCHROTRON
LIGHT SOURCE FACILITY.

Brookhaven National Laboratory, a major R&D facility under contract with the U.S. Department of Energy, has the following positions available in its National Synchrotron Light Source Department.

RESEARCH ASSOCIATE, (POST DOCTORAL)

Focusing on synchrotron radiation medical physics, you will work with the Medical Program Group. Active programs include: human coronary angiography, mammography and radiation cell biology. A Ph.D in Physics, Medical Physics or related field is required. Experience with synchrotron radiation x-rays experiments, along with an emphasis on image processing is desirable. Respond to job code: OSP.

ELECTRICAL ENGINEERS (4)

(1)We have an opening for an Electrical Engineer experienced in DSP utilization in control circuits with an emphasis on feedback control theory. Responsibilities will include the upgrade of power supplies including a ramping supply used in the facility's booster synchrotron ring. An MSEE and several years of applicable experience required. Respond to job code: NS3918.

(2)Responsibilities of position number 2 include the improvement of synchrotron light monitors, beam position monitors and complex orbit feedback control systems. Experience in the design of diagnostic hardware and electronics required; a strong analytical background in control systems, both analog and digital is highly desirable. An MSEE and several years of applicable experience required. Respond to job code: NS6163.

(3)Responsibilities of position number 3 include the design of hardware/software to ensure personnel protection in areas requiring radiation security. Experience in accelerator radiation safety systems and knowledge of encoders, relays, isolation and log amps to interface with fast mechanical vacuum valves and beamline hardware for security systems is required. A BSEE and several years of applicable experience, as well as excellent communication skills required. Respond to job code: NS3982.

(4)As Operations Manager, you will be responsible for control room supervision and troubleshooting of accelerator systems. Experience in accelerator hardware and control systems essential. You will also develop and apply a NSLS Conduct of Operations. An MSEE and several years of applicable experience required. Respond to job code: NS3925.

COMPUTER SYSTEMS ANALYST/
SYSTEMS ADMINISTRATOR

Responsibilities will include maintaining a network of HP workstations, x-terminals and PCs, installing a variety of software packages and assisting the staff with computer issues. Requires a BS in Computer Science with experience in programming, administering and maintaining networks. Knowledge of C, Shell and Perl programming, x-terminals, Informix database, security software, firewalls, Ethernet networks, Novell and PC hardware/software is highly desirable. Respond to job code: NS3922.

SENIOR ELECTRO-
MECHANICAL TECHNICIAN

Experience in the set-up and operation of instrumentation, calibration of magnetic measurement devices, assembly and operation of motor control hardware, vacuum/cooling systems and cryogenic apparatus. A BS in Science or Electronic Technology or equivalent with several years applicable experience required. Respond to job code: DD3926.

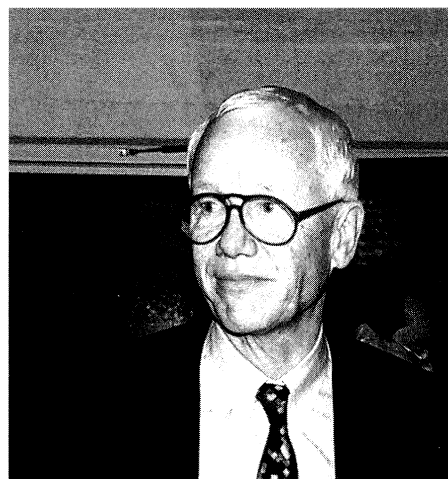
For immediate consideration, forward your resume with job code to: Brookhaven National Laboratory, Associated Universities, Inc., Human Resources Division, P.O. Box 5000, Bldg. #185, Upton, NY 11973-5000. BNL is an equal opportunity employer committed to workforce diversity.



BROOKHAVEN NATIONAL LABORATORY
ASSOCIATED UNIVERSITIES, INC.

*Nuclear resonance -
Torleif and Magda Ericson*

Klaus Winter - chorus of approval



controversy in neutrino rapporteur talks.

Arriving at CERN in 1958, he was involved in initial weak interaction experiments at the synchro-cyclotron and the PS proton synchrotron. After a strong interaction interlude from 1971-76 at the Intersecting Storage Rings, he moved back to weak interactions as spokesman of a series of landmark neutrino physics experiments at the SPS proton synchrotron - CHARM, its successor, CHARM2, and now Chorus. The careful CHARM experiments have provided definitive measurements of key electroweak parameters, nicely complementing results from other sectors to provide today's precision Standard Model numbers. Meanwhile the Chorus experiment, with its innovative approach and wide international participation, is poised to add further to our knowledge of neutrinos.

After an introduction from CERN Director General Chris Llewellyn Smith, the symposium opened with memorable multilingual poetry from H.M. Enzensberger. Turning to physics, Ettore Fiorini spoke on thermal detectors, Sam Ting on precision electroweak tests, Lev

Okun dreamt of an unorthodox lepton-photon picture, Val Telegdi ('The Inverse Billionaires' Club') spoke on precision physics experiments, and Walter Schmidt-Parzefall looked forward to the HERA-B experiment.

1996 UK Institute of Physics awards

Among the winners of this year's awards by the UK Institute of Physics is Sir William Mitchell, who receives the Glazebrook Prize 'in recognition of his outstanding contributions to the organization of science as head of the Physics Department at Reading and of the Clarendon Laboratory, Oxford, Chairman of the UK Science and Engineering Research Council, and as President of CERN Council (1991 - 3). In this latter role he oversaw much of the valuable groundwork for the subsequent approval of the LHC.

Theorist Frank Close of the Rutherford Appleton Laboratory receives the Kelvin Prize for the public understanding of physics for his memorable public presentations and well known books ('The Cosmic Onion', 'End', 'The Particle Explosion',...)

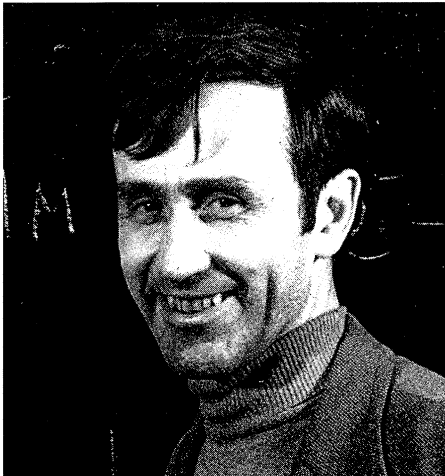
David Bugg of Queen Mary and Westfield College, London, receives the Rutherford Prize for his contributions to particle physics, particularly hadron spectroscopy. He has worked on several experiments at CERN, most recently at the LEAR low energy antiproton ring.

Distinguished Berkeley scientists

Three notable Berkeley researchers, David Nygren, Arthur Poskanzer and Frank Stephens, well-known for their accomplishments in designing innovative detectors, become Distinguished Scientists at the Lawrence Berkeley National Laboratory.

Nygren's invention of the Time Projection Chamber (TPC) has had a profound effect on both particle and nuclear physics, while his groundwork on pixel detectors, as well as other ideas, have been extremely fruitful.

Poskanzer is a pioneer in the use of high energy reactions to produce nuclei far from stability. He has led a group effort in the field of relativistic heavy ion reactions, and was co-leader of the Plastic Ball project



which discovered the collective flow of nuclear matter. He is spending this year at CERN, where he is deputy spokesman of the NA49 experiment.

Stephens, the originator of the Gammasphere project, is one of the foremost authorities on the structure of nuclei and the relationship of that structure to phenomena in other branches of physics.

Alexander Skrinsky 60

Alexander Skrinsky, or Sasha as friends and colleagues call him, is 60 on 15 January. An outstanding member of Gersh Budker's Siberian school, after graduating from Moscow University in 1959 his life has been closely linked to Novosibirsk's Budker Institute of Nuclear Physics, where he has progressed from graduate student to Director.

Under first Budker and then Skrinsky, Novosibirsk's successful commissioning of pioneering electron colliders earned the Lenin Prize, and a bid to extend this work to heavy particles stimulated the famous development of electron cooling, a technique now exploited all over the world.

Skrinsky's early fascination in spin dynamics resulted in major developments for polarized beams in colliders. Their logical continuation was the discovery and subsequent development by Skrinsky (who had become the youngest Soviet Academician, elected in 1970) of resonance depolarization for high precision measurements of particle masses. For this, Skrinsky and other Novosibirsk physicists were awarded the State Prize of the USSR.

While the rest of the community focused on circular supercolliders, Siberian scientists, already dreaming of new frontiers, conceived the linear collider idea - now an acknowledged future avenue.

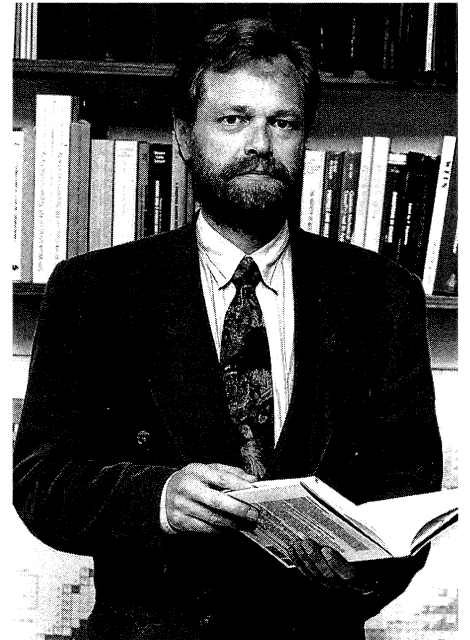
Skrinsky's wide physics interests are a continual source of fresh ideas, including the optical klystron - a special free electron laser.

As leader of a major Russian physics centre and as head of the Nuclear Physics Department of the Russian Academy of Sciences, he actively contributes to the scientific programme of major accelerator laboratories and in particular furthers the interests of Russian physicists in international collaboration.

Physically fit, he spends rare free moments in the forest: jogging in summer and skiing in winter.

Meetings

The CERN Accelerator School and the European Synchrotron Radiation Facility (ESRF, Grenoble) are jointly organizing a course on Synchrotron Radiation and Free-Electron Lasers, to be held from 22-27 April in Grenoble, France, and mainly aimed at staff in laboratories, universities and companies manufacturing appropriate equipment. Further



information from Mrs. S. von Wartburg, CERN Accelerator School, CH-1211 Geneva 23, e-mail casgren@cernvm.cern.ch fax +41 22 767 5460

A meeting "Quark confinement and the hadron spectrum II", sponsored by the EEC's Human capital and mobility programme, will be held in Como, Italy from 26-29 June 1996. Information: N. Brambilla, Dipartimento di Fisica, Via Celoria 16, 20133 Milano, phone: +39 2 2392 723, fax: +39 2 2392 480; email: N.Brambilla@mi.infn.it or quarkconfin@mi.infn.it

A Summer School on Physics with Neutrinos will be held at Zuoz (Engadin) Switzerland from 4 - 10 August, organized by the Paul Scherrer Institute (PSI), Villigen. Scientific secretaries are M.P. Locher and R. Rosenfelder. Requests for registration should be sent to Mrs. Christine Kunz (secretary), WHGA-C59, CH-5232 Villigen-PSI,

South African President Nelson Mandela opened the International Conference on Cyclotrons and their Applications in Cape Town in October.

(Photo National Accelerator Centre, Faure, South Africa)



Switzerland, Telephone +41-56-310 42 23, Fax +41-56-310 36 36, e-mail: Christine.Kunz@psi.ch

CERN-JINR European School

The 1996 CERN-JINR European School of High Energy Physics will be held at Carry-le-Rouet, near Marseille, France, from 1-14 September.

Organized jointly by CERN and the Joint Institute for Nuclear Research (JINR), Dubna, Russia, together with institutes from this year's host coun-

try, France, the school's basic aim is to teach various aspects of high energy physics, but especially theoretical physics, to young experimentalists, drawn mainly from CERN and JINR Member States.

All enquiries and correspondence related to the School of Physics should be addressed either to:

Miss Susannah Tracy, School of Physics, CERN/DSU; CH-1211 Geneva 23, Switzerland. Telephone +41 22 767 2724; Telex 419 000 CER CH; Telefax +41 22 767 6760; E-mail

Susannah_Tracy@macmail.cern.ch

or to Mrs Tatyana Donskova, International Department, Joint Institute for Nuclear Research, CIS-141980 Dubna, Moscow Region, Russia. Telephone +7 095 926 2252/7 096 21 63448; Telex 911621 dubna su; Telefax +7 095 975 2381/7 096 21 65 891; E-mail

donskova@ypr.jinr.dubna.su
Latest information on the school and the application form can be found on the World Wide Web <http://www.cern.ch/PhysicSchool/>

Completed applications should be received by 31 March.

Physics and detectors for a linear collider - Joint ECFA/DESY study

The European Committee for Future Accelerators, ECFA, is setting up joint working groups with DESY to study both the physics potential of an electron-positron linear collider with a collision energy of 500 GeV or more, and the conceptual design of the required detectors. The groups will be formed at a first workshop in Frascati on 5-6 February. There will be a second workshop in early July, and the results will be gathered together at a final workshop in November.

Four working groups will cover:

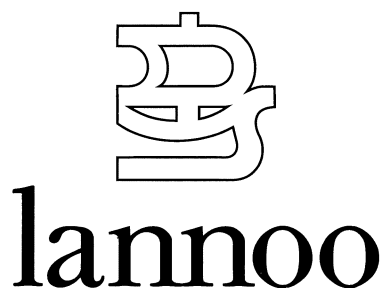
- Physics (including electron-positron, real gamma-gamma and electron-gamma interactions), benchmark processes and generators;
- Detector concepts - B field, hermeticity, tools, simulation etc;
- Detector subsystems; vertexing, calorimetry, triggers etc;
- Collider-experiment interface; backgrounds, masking etc.

Updated details of the workshops will be available on the World Wide



Visiting CERN recently was Deputy Minister of Industry and Trade of the Czech Republic Miroslav Somol (centre). On his left is Jiri Niederle, President of the Council for International Affairs of the Czech Academy of Sciences and Vice-Chairman of CERN Council, with Delphi experiment physicist Jan Ridky of Prague on his right.

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Lawrence Berkeley Laboratory

Postdoctoral Position in Particle Physics

The Physics Division at LBL has an opening for a postdoctoral physicist in the D0 Group. LBL built a calorimeter and vertex chamber for the D0 Detector at the Fermilab Tevatron Collider, is deeply involved in electroweak and top quark physics analyses, and is collaborating on the new silicon tracker for the up-graded detector. We seek candidates who are exceptionally talented and deeply interested in analyzing present D0 data and in upgrading the D0 detector for its highest luminosity run.

Applicants should have a Ph.D. in particle physics and demonstrate strong potential for outstanding achievement as an independent researcher. This is a two-year appointment with the possibility of renewal. Salary range is \$3135-\$3820/month.

Please submit a letter of application, resume, publication list and three letters of reference to:

Dr. Ronald J. Madaras
c/o Personnel Administrator, Job PHY/3911
Lawrence Berkeley Laboratory, MS 50-256
University of California
1 Cyclotron Road
Berkeley, CA 94720

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1996 LNF Spring School in Nuclear and Subnuclear Physics

INFN National Laboratories in Frascati

15-20th April 1996

The 1996 LNF Spring School in Nuclear and Subnuclear Physics will take place in INFN National Laboratories, in Frascati, Italy, from 15th to 20th of April. The School is directed to graduate students, postgraduate and postdoctoral fellows and will be dedicated to DAΦNE physics, in particular to studies of CP and CPT violation in ϕ -decays, hadron spectroscopy at the ϕ , hypernuclear physics, hadronic contributions to $g-2$ of the muon, and Chiral Perturbation Theory.

For information, contact Giulia Panheri at Frascati National Laboratories: **e-mail** pancheri@lnf.infn.it or **tel n. 0039-6-94032885, 2427**fax or consult **www** at the address <http://hpteor.lnf.infn.it/>.

Research Physicist - High Energy Physics

University of California Santa Barbara

The high energy physics group of UCSB has one or more positions available starting in the fall of 1996. The appointments would be at the post-doctoral research physicist or assistant research physicist level, depending on qualifications. The positions are for research with the CLEO or BABAR collaborations on heavy quark physics. A Ph.D. in experimental particle physics is required, with evidence of experience in hardware development and data analysis. Interested candidates should submit a letter of application, statement of research interests, vita, and a list of publications to:

Professors Campagnari and Morrison
Department of Physics, University of California
Santa Barbara, CA 93106-9530
email : morrison@charm.physics.ucsb.edu
claudio@ucsb2.physics.ucsb.edu

They should also arrange to have at least three letters of recommendation sent to the same address. For primary consideration, applications should be received by March 15, 1996; positions will remain open until filled. We encourage applications from minority and women candidates. The University of California is an EO/AA employer.

Web, linked under Conferences Schools and Workshops via the CERN and DESY homepages.

The physics programme of such a collider would complement the ongoing LHC programme at CERN. As a result of an intercontinental collaboration towards the realization of the linear collider, conceptual design reports are in preparation in the USA and in Japan, and are expected to appear at the end of 1998.

The joint ECFA/DESY workshops aim to match the intensive work on the conceptual designs for the TESLA and S-band accelerators with a conceptual detector design. This study will draw on the results of previous physics studies done in Europe and elsewhere in preparation for the workshops in Finland, in Hawaii and at Morioka, Japan, last September.

The organizing committee for the study is L. Mandelli (Milano, chair), G. Coignet (LAPP, Annecy), M. Danilov (ITEP, Moscow), E. Fernandez (Barcelona, new chair of ECFA), K. Gaemers (NIKHEF), L. Jönsson (Lund), M. Leenen (DESY), D.J. Miller (UC, London), A. Wagner (DESY).

Robert R. Wilson Prize 1996

This year Albert Hofmann of CERN wins the prestigious Robert R. Wilson Prize of the American Physical Society*, an award established in 1986 to recognize and encourage outstanding achievement in the physics of particle accelerators, and which has established itself as the major world honour in this vital sector, without which particle

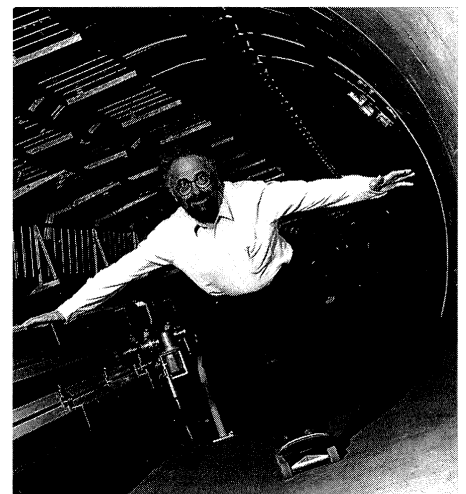
physicists would not be able to make their experimental discoveries.

The dry official citation says Hofmann's award is 'for his numerous experimental techniques developed to elucidate collective phenomena in accelerators and storage rings; in particular the experimental determination of beam impedances and methods for controlling the instabilities that limit beam intensities. His theoretical insights and experimental innovations have led directly to high intensities in many circular accelerators and storage rings both for particle physics and synchrotron radiation production. As a superb teacher and mentor, he has been unfailingly generous in conveying his knowledge and insight to others, especially younger physicists and engineers.'

He learnt his trade first at Zurich, and then as one of a small band of dedicated pioneers at the Cambridge (US) Electron Accelerator, a complicated machine which in the late 60s and early 70s blazed a trail for electron-positron colliders to come. At CERN, his elegant work on the understanding, measurement and suppression of beam instabilities in the Intersecting Storage Rings (ISR) opened the door to higher beam intensities in that machine and its successors.

His next major responsibility at CERN was (and still is) in the LEP electron-positron collider. Along with Steve Myers, he was responsible for the commissioning of this, the world's largest accelerator, where he has played a vital role in coaxing this complex machine towards and beyond its design performance.

His genius and insight have consistently led to unexpected machine refinements, examples



being the first detection of synchrotron radiation from a high energy proton beam (at the CERN SPS), and the uncannily accurate prediction of the effect of earth tides on beam energy in LEP (in collaboration with the late Gerry Fischer). His exceptional talent is also well integrated into coherent teamwork, with many of his contributions have been made in collaboration with colleagues.

Away from CERN, he has spent several years at SLAC (Stanford), where he helped convert the SPEAR and PEP electron rings for synchrotron radiation use, as well as working on the damping rings for the SLC linear collider. As a world authority on synchrotron radiation, he has contributed to several major world machines.

Always eager to share his deep knowledge and understanding with his colleagues, he is much in demand as a lecturer on accelerator topics.

* For details of other 1996 American Physical Society awards, see page 23.



Juan Jose Giambiagi

A guiding light of Latin American physics, Juan Jose Giambiagi, died in Rio de Janiero on 8 January. A tribute will appear in a forthcoming issue.

A recent symposium at Argonne to mark the 65th birthday of Tom Fields attracted a number of scientific celebrities, including a bevy of Directors of Argonne's High Energy Physics Division. In chronological order (right to left) they are Roger Hildebrand, Tom Fields, Malcolm Derrick, Bob Diebold and present Director Larry Price. Missing is Tom Kirk who served as Director before Price. The one-day symposium covered the scientific and technical contributions Tom has made over a 40-year career, as well as institutional and planning questions. The range of contributions that physicists of Tom's generation made is staggering considering that today a young physicist might work on only two experiments in a lifetime!

Antihydrogen

As CERN scientists returned to the Laboratory after the end-year break, they were surprised to learn via media announcements that an experiment at CERN had discovered the first signs of antimatter. Last summer, an experiment at CERN's LEAR low energy antiproton ring using a xenon gas jet target in the circulating antiproton beam found nine atoms of antihydrogen. Such neutral atoms each consist of a lone positron (antielectron) circulating round an antiproton nucleus.

Antiparticles are well understood and were first seen in 1932. Scientifically, the fact that neutral antiatoms can exist is no surprise - the challenge is to synthesize and detect them. Having done this, the next, and more difficult, question is to determine whether these atoms behave in the same way as their ordinary matter counterparts. Story in the next issue.

CERN Courier contributions

The Editor welcomes contributions. These should be sent via electronic mail to courier@cernvm.cern.ch

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

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

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M. Riordan

TRIUMF Laboratory, (Canada)
M. K. Craddock

Experimental Research Associates

The Stanford Linear Accelerator Center (SLAC) is one of the world's leading laboratories supporting research in high-energy physics. The laboratory's program includes the physics of high-energy electron-positron collisions, high-luminosity storage rings, high-energy linear colliders and particle astrophysics.

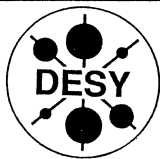
Post-doctoral Research Associate positions are currently available with research opportunities in the following areas:

- Z^0 physics at the Stanford Linear Collider, with highly polarized electron beams and the upgraded SLD detector with its new vertex detector
- Preparing for B physics with the BaBar detector at the PEP II Asymmetric B Factory, helping design and build the detector subsystems and get ready for physics
- Participating in a Particle Astrophysics program studying time-dependent x-ray sources with the USA (1996 launch) and R&D for a high-energy gamma ray astronomy experiment in space (GLAST)

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

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

Stanford Linear
Accelerator Center
SLAC



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 (BAT II a).

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 1996 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 in Zeuthen near Berlin, applicants may indicate at which location they would prefer to work.



TRIUMF

MESON RESEARCH FACILITY
University of Alberta
Simon Fraser University
University of Victoria
University of British Columbia

Research Associates Subatomic Physics

Applications are invited for two Research Associate positions in subatomic physics with the HERMES group from TRIUMF, the University of Alberta, and Simon Fraser University. The HERMES experiment measures the spin dependent structure functions of the proton and the neutron using deep inelastic scattering of polarized positrons from polarized gas targets at HERA. The Canadian group is responsible for the transition radiation detector used to distinguish between positrons and hadrons and the second level trigger. The group is also involved in the slow control systems for the experiment. HERMES has taken its first data in 1995 and the focus of the group is moving from hardware to software and physics analysis.

Applicants must have a PhD. in Nuclear or Particle Physics. Relevant skills and experience in wire chambers and nucleon structure would be an asset. There will be two positions available, subject to funding. Successful candidates will spend half of their time on hardware support upgrades, half on physics analysis. The candidate will also be expected to spend a significant amount of time at DESY in Hamburg, Germany.

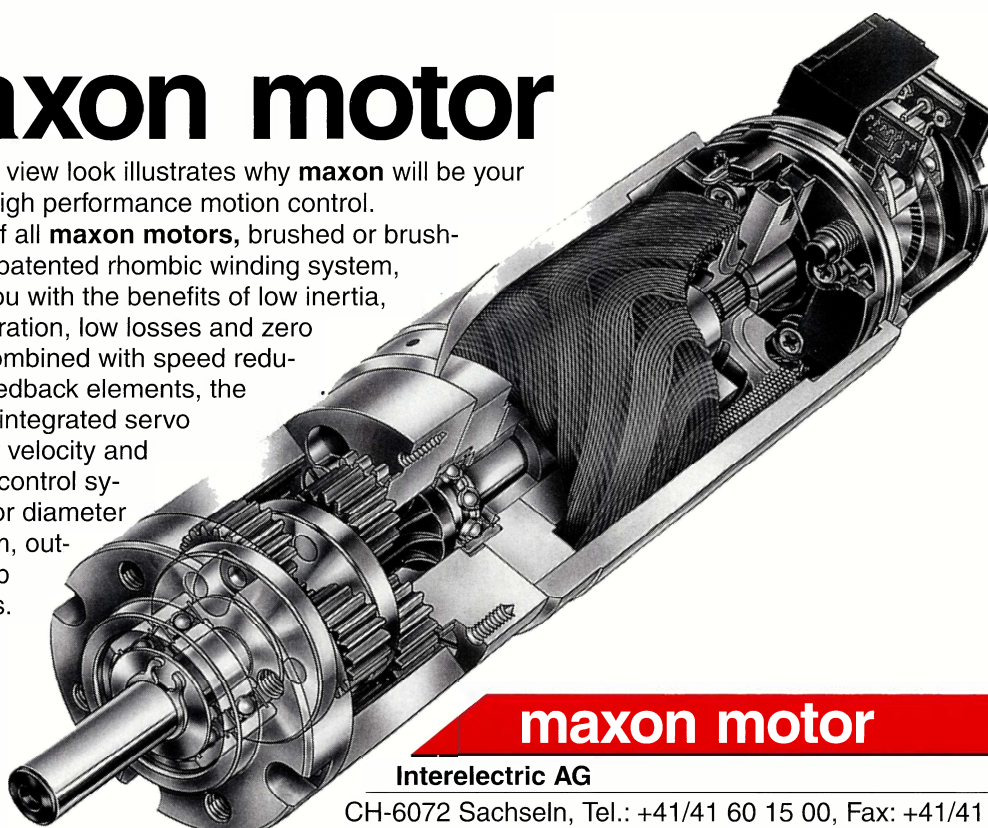
Salary is competitive and depends on experience. Applicants should send a curriculum vitae and the names of three referees **before February 15, 1996 to: TRIUMF Personnel (Comp. #693-105), 4004 Wesbrook Mall, Vancouver, B.C. CANADA V6T 2A3.**

For further information contact Dr. M. Vetterli (vetm@triumf.ca). We offer equal employment opportunities to qualified male and female applicants. In accordance with Canadian immigration requirements, this advertisement is directed first to Canadian citizens and permanent residents. However, all qualified persons are encouraged to apply.

The maxon motor

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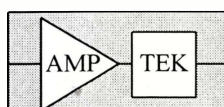
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X-RAY DETECTOR

XR-100T

FEATURES

- Si-PIN Photodiode
- Peltier Cooler
- Cooled FET
- Amptek A250 Preamp
- Temperature Monitor
- Beryllium Window
- Hermetic Package (TO-8)
- PX2T Amplifier and Power Supply
- Optional CZT Detector

APPLICATIONS

- X-Ray Fluorescence
- Medical X-Ray Detectors
- X-Ray Lithography
- Portable X-Ray Instruments
- X-Ray Teaching & Research
- Mössbauer Spectrometers
- X-Ray Space and Astronomy
- Environmental Monitoring
- Nuclear Plant Monitoring
- Toxic Dump Site Monitoring
- PIXE

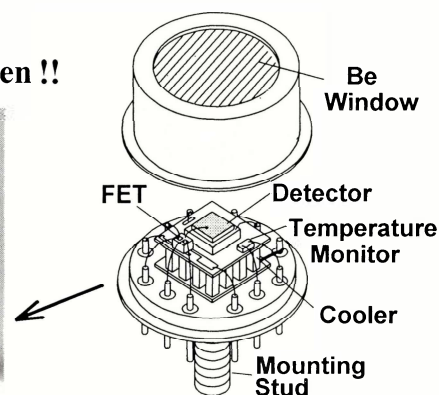
Model **XR-100T** is a new high performance X-Ray Detector, Preamplifier, and Cooler system using a Si-PIN Photodiode as an X-Ray detector mounted on a thermoelectric cooler. On the cooler are also mounted the input FET and the feedback components to the Amptek A250 charge sensitive preamp. The internal components are kept at approximately -30°C, and can be monitored by a temperature sensitive integrated circuit. The hermetic TO-8 package of the detector has a light tight, vacuum tight 1 mil (25 µm) Beryllium window to permit soft X-Ray detection.

Power to the XR-100T is provided by the PX2T Power Supply. The PX2T is AC powered and also includes a spectroscopy grade Shaping Amplifier. The XR-100T/PX2T system ensures quick, reliable operation in less than one minute from power turn-on.

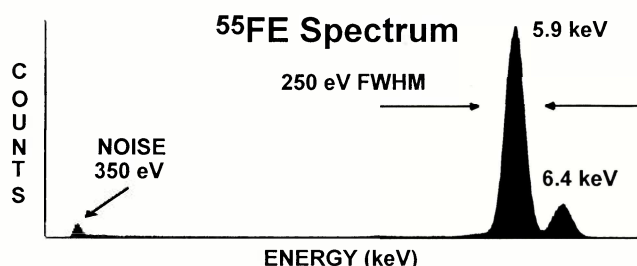
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The system resolution with a test pulser and the detector connected is 200 eV FWHM. The resolution for the 5.9 keV peak of ⁵⁵Fe is 250 eV FWHM.



MultixAnode

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budded from the new
branch

Hamamatsu puts the
new branch in the tree
of photodetector for
scientific world.

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New Standard

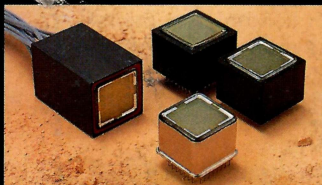
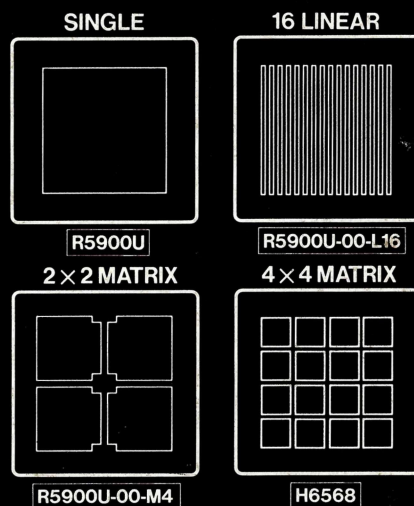


Hamamatsu now introduces new multianode PMTs with low-profile square envelopes that enhance the packing density per detection unit. Available with a two-dimensional 2×2 or 4×4 multianode, or 16 linear multianode, these PMTs offer the best price per anode. Modular types with a peripheral circuit are also available in our product line to facilitate readout signal processing. We also welcome your special requests for custom anode patterns and large sensitive areas. These low-profile multianode PMTs will set a new standard in scientific instrumentation.

■ SPECIFICATION DATA

TYPE	ANODE SIZE (per channel)	ANODE PATTERN	CROSS TALK(%)	RISE TIME (ns)	GAIN
R5900U	□18mm	1	—	1.4	1.5×10^6
R5900U-00-M4	□8.8mm(×4 Channels)	2×2	4	1.2	1.8×10^6
H6568	□4mm(×16 Channels)	4×4	1	0.83	3.3×10^6
R5900U-00-L16	0.8mm × 16mm (×16 Channels)	1×16	3	0.6	2×10^6

■ Anode Pattern Variation



MULTI ANODE PMT

28mm × 28mm Square
20mm Height
22.5g :Weight(Approx.)

Front : R5900 Left :H6568(4×4 Multi Anode) Center : R5900U-00-M4(2×2 Multi Anode)
Right : R5900U-00-L16(1×16 Linear Anode)

314-5, Shimokanzo, Toyooka-village, Iwata-gun, Shizuoka-ken, 438-01 Japan TEL:81-539-62-5248 FAX:81-539-62-2205 TLX:4289-625

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