projection of the track is detected. Enormous gas volumes (up to 40 m$^3$) are used to deposit the ionization of the particle. A common type of detector is the Time Projection Chamber where the drift distance is computed from the drift time to determine the track position in space. 2) Photon method, which uses the transition radiation of radiators interleaved between multiwire proportional chambers sensitive to photons of about 10 eV to provide powerful $\pi/e$ discrimination for particles with extremely high $\gamma$-factors.

Finally, one should not forget the Ring Imaging Čerenkov detector (RICH) for $\pi/K/p$ separation, where Čerenkov photons ionize the gas of a drift chamber containing a small quantity of a special gas (TMAE), and calorimetry, which has become a powerful tool for energy measurements in particle physics using arrangements of material for shower production alternating with wire chambers.

Other fields
Charpak's work and influence did not stop with the successful exploitation of wire chambers in nuclear and particle physics for he also developed applications in biology, medicine, synchrotron radiation, and astrophysics. For X-ray measurements in nuclear medicine, he worked on a high-pressure, xenon filled, gas scintillation counters and continued with photoionization proportional scintillation detectors, where the energy resolution went down to less than 10% FWHM at 5.9 keV. Indeed, the required radiation dose to a patient is reduced by an order of magnitude using a wire-chamber imaging camera. The multistep avalanche chamber has been used for radiochromatography (tritium loaded) and, in conjunction with optical CCD readout, renal ducts of about 50 μm are visible with 100 times less exposure limits compared to photographic methods. Another device is the spherical drift chamber for X-ray imaging applications: the drift space is spherical and the electric drift field is radial, giving an ideal detector for a point-like source. It is employed successfully for protein diffraction pattern measurements.

Various systems for medical imaging are used in hospitals. One is a positron emission tomography imaging using the tomographic imaging consisting of two or more wire chambers (Rutherford-Appleton Laboratory, UK; Cantonal Hospital, Geneva.) Another is a computer-assisted digital X-ray diagnostic camera which has improved resolution and requires only one-tenth of the dose compared with conventional methods (in clinical use in Moscow and Novosibirsk).

In addition to scientific accomplishments, George Charpak is distinguished by his humanitarianism. Aside from his involvement in medical applications of wire chambers, he has been a strong defender of human rights, the most spectacular action being in defense of Yuri Orlov, an internationally renowned Russian accelerator physicist who founded the Moscow-Helsinki Watch Group in 1976. Orlov was set free in 1986 after following international protests. Charpak was also a beloved teacher, and many of his former disciples were glad to become his friends, including the authors.

REFERENCES
rough) and nine others. Staff redundancies (staff reductions of 2000 over five years section "unavoidable") and the redevelopment of retained sites will be financed by a special 200 MCoMoD grant.

The reorganization follows other measures to enhance cost effectiveness, notably the introduction of customer contracts in the early 1980's and open competition between centralised group services and outside suppliers. John Chisholm, the DRA's Chief-Executive, is presently seeking Treasury approval to move ahead to a semi-privatised trading fund status by April 1993 as a first step towards the creation of five business sectors with full responsibility by 1996.

Malvern probably has the largest number of physicists (several hundred out of a total staff of some 1500) as it was once based 50% on the applied physics department. The DRA has 11 business sectors and Malvern is mainly involved in two of them (electronics, communications and information). Both will be slightly strengthened by transfers from elsewhere. Most affected in a positive way will be Farnborough close to London because the development plan envisages a major new Centre for Materials and Structures.

- Preprint Servers Pop Up Everywhere

The number of databases storing preprints for retransmission (so-called preprint servers) keeps growing. High-energy physics continues to be well served but other fields are catching up in spite of the fact that they have historically used preprints much less. A no doubt incomplete, but useful, list is:

- HEP phenomenology: hep-ph@xxx.lanl.gov
- HEP theory: hep-th@xxx.lanl.gov
- Quantum gravity: gr-qc@xxx.lanl.gov
- Computational & lattice physics: hep-lat@ftp.scri.fsu.edu
- Condensed matters: cond-mat@babbage.sissa.it

Preprints are submitted by email and a remote subscriber receives a preprint by email by sending an email message. One usually finds out the procedures by sending an email message (any message) with the subject line containing the word "help". Virtually anyone with access to a terminal and server software can set up a preprint server and anyone can enter a preprint. Most labs have difficulty keeping up. Indeed, some are giving their preprints the number assigned by a server since staff members must first send preprints to servers. Cataloguing will be a nightmare until there is at least some coordination between servers covering a group of fields. The link between servers and the traditional printed preprint catalogues published by some centres is also unclear.

- New Appointments

Professor Peter Fricker takes office as the Secretary General of the European Science Foundation on 1 January 1993. He has been the Secretary General of the Swiss Science Foundation since 1970.

Riccardo Giacconi, Director of the Space Telescope Science Institute, in Baltimore, USA, succeeds Professor H. van der Laan as the next Director-General of the European Southern Observatory on 1 January 1993.

Riso National Laboratory

Research Positions in Neutron Scattering at Riso

At the DR3 research reactor at Riso National Laboratory, five cold- and two thermal-neutron beams are used for research within solid state physics and materials science. The current research topics include studies of electronic- and nuclear-magnetic model systems (ordering, phase transitions and excitations), heavy-electron systems, High-Tc superconductivity, low-dimensional systems, inorganic and biological systems studied by SANS, internal stress, and texture.

Approximately 30% of the available beam-time is available to European users under the EC large-facility programme. In this connection, a tenure-track staff position will be available at Riso from the summer of 1993. The successful applicant will be expected to spend approximately 50% of his time assisting and collaborating with users under the EC programme, and in designing and maintaining equipment and software. In the remainder of the time he will be free to do his own research, with the only constraint that neutron scattering methods should play a significant role.

Qualifications: Applicants should hold a degree in science, engineering or other relevant disciplines, preferably at postgraduate level and have several years experience in solid state physics and materials science.

Terms of employment: Similar to Danish staff at Riso National Laboratory.

Further information can be obtained from K. N. Clausen, Tele phone +45 42 37 12 12 ext. 4704, Fax 45 42 37 01 15. Deadline for applications: 30 November 1992. Applications should be sent to The Personnel Department, Riso National Laboratory, Postbox 49, DK-4000 Roskilde, Denmark.