

Working at RAL



Working at RAL

A Guide for New Staff and Visitors

With about 1450 employees, Rutherford Appleton Laboratory (RAL) is the largest of the four research establishments of the Science and Engineering Research Council. It hosts many visitors from universities and polytechnics, some coming for only a day at a time, others staying for months or longer. A number come from overseas. This booklet gives new employees and visitors a guide to the services available at RAL.

The Council is funded by the Department of Education and Science to support research and advanced training in science and engineering. It does this through grants (often jointly with industry and other bodies) to universities and polytechnics and by providing research and support facilities at its establishments. Among these facilities at RAL are ISIS, for research using neutron scattering techniques, the Central Laser Facility and a Cray X-MP/48 supercomputer.

RAL also coordinates and supports UK research at overseas centres such as CERN, the high energy physics laboratory in Geneva, Institut Laue-Langevin in Grenoble, and for international bodies such as the European Space Agency. Its staff participate in research projects in countries throughout the world.

Administration

Department Administration Officers (DAOs) are normally the first points of contact when information on services is required. Information can also be provided by Department Heads' secretaries.

DAOs can advise new staff and visitors on procedures and practices within the Laboratory and on general administrative matters, typing and reprographics services, travelling arrangements etc. A limited range of stationery is held by DAOs, other items being available in the Stores, Bldg R9.

The RAL telephone directory is a mine of information. Copies are available from DAOs or from the R1 Post Room, ext 5590.

The Laboratory-wide office automation system, PROFS, offers a range of information to those with access to a computer terminal.

Accommodation

The Cosener's House in Abingdon provides accommodation for visitors. Harwell Laboratory hostels may be available for new RAL staff and visitors.

Some furnished and unfurnished accommodation is available to eligible staff and visitors.

All bookings for hostels, houses and external accommodation must be made through the Accommodation Office, R31 (hostels/hotels ext 5757, houses ext 5476).

Travelling to Work

Bus services are provided by Harwell Laboratory for staff travelling to and from work. Services cover a wide radius and include most towns and villages. Timetables are arranged to match RAL working hours.

Details of these services can be obtained from Transport Section, R54, or from Personnel & Training Division, R20. Bus season tickets can be obtained through Personnel and occasional tickets for single journeys can be bought at the Cash Office, R20. Tickets cannot be bought on buses. There are services outside standard hours for shift, overtime and weekend working and details are available from Transport Section.

It is often possible to arrange regular lifts or car pools, eg through advertisements in the fortnightly Harwell "Harlequin" news-sheet circulated within RAL.

Car Parking

Parking is only allowed by permit within the RAL perimeter. Ample space is provided in a number of locations outside the fence.

Hours

Normal working hours are:

08.30–17.10 Monday to Wednesday
08.30–17.00 Thursday
08.30–16.00 Friday

Some employees may be required to work other hours.

Personnel

Personnel and Training Division is situated in R20. It deals with the following:

- Conditions of service; superannuation; annual, sick and special leave, ext 5495/5501/5600.
- Recruitment; probation; promotion reviews; Council vacancy notices, ext 5510.
- Travel within the UK and overseas, ext 5575/6184.
- Claims for travel and subsistence, ext 5585/5228.
- Training courses etc for staff, see p.12, (ext 5266).

Advice on any of the above may be obtained by telephoning the extension quoted or by visiting Personnel. Personnel staff are also available to discuss personal problems at any time.

Copies of SERC Conditions of Employment for Industrial and Non-Industrial staff are available for reference in the Library and in Personnel.

Pay

Rates of pay are given with letters of appointment. Queries should be referred to Salaries, ext 6333/5395 for monthly paid employees and to Wages, ext 5385 for weekly paid employees. Pay cards for weekly paid employees should be signed by supervisors and handed to collecting points by 09.00 each Friday morning. Special arrangements are made prior to public and privilege holidays.

Leave

The annual leave year begins on 1 March.

Annual leave allowances are stated in letters of appointment. Application for any period of leave is made on a leave card (usually held by DAOs or by supervisors) and must be approved in advance by supervisors or group leaders before any leave is taken.

Special leave may be granted in exceptional circumstances. Applications should be made to the Personnel Officer, R20, ext 5600.

Sick Leave

In all cases of illness or incapacity, staff must inform their supervisors as soon as possible that they are unable to report for duty. Staff returning from sick leave must complete the appropriate sick leave form (obtainable from DAOs) and send it to Personnel. Sick absences of more than seven consecutive days must be covered by a doctor's statement. If the absence is as a result of an accident at work, there may be a legal requirement for the Laboratory to notify the authorities.

Medical and Dental Services

Emergency medical cover is provided by Harwell Laboratory (from RAL tel 72-2222). Routine RAL medical examinations take place at Harwell for which passes will be issued to be picked up at the Harwell main gate or Fermi Avenue gate as required. Transport can be arranged by Personnel, ext 5501/5495.

A Harwell nurse visits RAL for medical interviews by appointment, (tel 72-4742).

A Dental Surgery operates from premises opposite the Harwell Laboratory shopping centre 08.50–12.45 and 13.45–15.15 (tel 72-3099).

Cash Office

The Cash Office in R20 is open 10.00–12.00 and 14.00–16.00 on Monday–Thursday. On Fridays it closes at 15.00. Expenses authorised by Claims can be paid here and bus tickets purchased for occasional journeys.

There is also a Lloyds Bank Cashpoint in the main entrance to R1.

Stores

R9 houses the main stores (ext 5474) which stocks stationery, electrical and electronic components, ironmongery, computer accessories, gases, metals, protective clothing and tools. All exports and imports of goods are handled by Stores (ext 6663).

Hours:

Monday–Wednesday	08.30–12.30 13.15–16.50
Thursday	08.30–12.30 13.15–16.45
Friday	08.30–12.30 13.20–15.50

Information is available from DAOs and through the PROFS Finance Information Service.

Post

Messengers collect and deliver internal and external mail to and from offices and laboratories several times a day. Private letters will be accepted but must be stamped by the sender.

Electronic mail and messaging systems are available within RAL (eg through PROFS) and to external network users.

Telephones, Telex, Fax

Full details of these services, including tie lines to other establishments, are given in the Laboratory's internal telephone directory.

Official Journeys

For local journeys, self-drive cars and vans are available to permit holders who must have held a full driving licence for a year. Applications to become a permit holder are made through group leaders to Transport, R54. Vehicle bookings are also made by Transport, ext 5317.

In certain circumstances, staff may use their private cars for official business and claim a mileage allowance. The conditions upon which the allowance is paid are set out in SERC notices available from DAOs.

Airline tickets, foreign hotel reservations, visas and other travel arrangements are handled by Travel, R20, ext 5575.

There are fixed rates of payment of travel and subsistence expenses to staff required to travel on official business or who have to work away from the Laboratory. Further details, rail travel warrants and claim forms are available from DAOs. All claims should be submitted within one month to Claims, R20.

Lecture and Conference Facilities

The Lecture Theatre in R22 is used for major lectures, seminars and presentations including film/video shows and the regular RAL Lecture series on subjects of general scientific interest. Another large lecture suite is available in R68 with a number of smaller rooms in other buildings. DAOs can advise on booking procedures. Conference and accommodation facilities are available in The Cosener's House (bookings ext 5729).

Conference support and administration is provided by Press and Public Relations, (see page 8).

Press and Public Relations

Press and Public Relations section provides expertise and assistance in all aspects of conference and meeting organisation, ext 5553 and arranges visits to the Laboratory by schools, societies, community groups etc, ext 6114.

The section also liaises with press, radio and TV, arranges press conferences and briefings and is a source of publicity material to the general public. It produces brochures, leaflets and exhibitions on the work of RAL and offers help and guidance in the preparation of this type of material, ext 5484/5777.

Photography and Reprographics

The Laboratory has a comprehensive photographic service to meet requirements within RAL and on location. In addition to the normal provision of photographic prints, slides, overhead transparencies etc, in black and white and in colour, the section makes films and videos and offers specialist services such as false colour imagery and photomicrography.

Reprographic capabilities include photo-typesetting, off-set litho printing to A3 size, half-tone production and a 2-hour copying service. There is also a facility for microfilming and printing engineering drawings. Colour printing can be arranged.

Information on all services can be obtained, during working hours, ext 5238, or from the reception office on the ground floor of R3 which is open

Monday–Thursday	08.45–12.15 13.45–16.30
Friday	08.45–12.15 13.45–15.00

Shops

The RAL shop, next to the Restaurant in R22, sells newspapers, periodicals, confectionery, stamps, cigarettes, tobacco and other items. It is open 08.15–09.30 and 11.30–13.45 Monday to Friday.

The Harwell Laboratory shopping centre, Curie Avenue, includes a newsagent, minimarket, butcher, post office, dry cleaner, hairdresser (appointment only) and a branch of Lloyds Bank. A bus runs between RAL and the shopping centre during the lunch break. It leaves the front entrance of R1 at 20-minute intervals from noon until 13.00, the last bus leaving the centre at 13.20.

Catering

The RAL restaurant is in R22, adjacent to the Lecture Theatre. It is open as follows:

Lunch	11.45–13.45	Monday–Friday
Evening Meal	17.00–18.45	Monday–Thursday

There is a coffee lounge with a snack bar serving light refreshments. Coffee is also served in the lounge on the first floor of R1, near the Library.



Lunchtime in the Restaurant

Library

Located in R61, the RAL library holds a wide range of scientific books, periodicals and reports. Material not in stock can be obtained by inter-library loan. Arrangements can be made for foreign language translations and for abstract and literature searches. For full information, consult Library staff, ext 5384.

A branch library, specialising in computing material, is located in R27, ext 6227.



The Library

House Publications

The RAL Reports series is used to publish research preprints and reports. Details are available from Reprographics, R3, ext 5238.

Current news of scientific and general interest to people working in or associated with RAL is published regularly in the RAL "Bulletin". Each issue reports on scientific and engineering activity at RAL and lists forthcoming seminars, meetings and social events. Articles and information of interest to RAL staff and visitors are always welcomed by the editor, ext 5777.

A review of progress in RAL research programmes is contained in the RAL Annual Report series, copies available from the Library.

Recreation

RAL Recreational Society has its own clubhouse in R58, with changing rooms, showers and a bar. Over 20 clubs cater for sporting and leisure interests. A list of these with names and telephone numbers of organisers appears in the RAL telephone directory.

Membership is open to all RAL staff and visitors and gives automatic membership to the Civil Service Sports Council. Each year, apart from local events, there are three main events in the SERC sporting calendar: indoor sportsday, outdoor sportsday and a golfing tournament. These are organised by the SERC Sports and Social Association and RAL features strongly in these events.

Membership of the Harwell Recreation Society is also open to RAL staff.

Discounts at a number of local shops are available to members of the societies.



Technical Services

Maintenance and modifications to main Laboratory services are undertaken by Engineering and Building Works. Telephone numbers are given in the RAL telephone directory.

Safety

Safe working practices and safe systems of work are regarded as pre-requisites of good management. All staff are encouraged through publicity, training and safety codes to develop safety awareness as an essential ingredient of their everyday work.

All employees are required by law to take reasonable care for the health and safety of themselves and of other persons at work, and to cooperate with their employers in their safety duties. All new RAL staff are required to attend a safety course run by the Safety Officer. Refresher courses and special instruction are also organised by the Safety Section. The primary responsibility for safety is vested in line management. Safety committees monitor safety performance and the Health and Safety Group advises on safety and radiation protection. Further information is available from the Safety Officer, ext 5329 and the Radiation Protection Adviser, ext 5253.

Training

Staff training in RAL is intended to improve the quality of work and assist in developing careers. Junior staff are encouraged to continue their education, particularly in areas relevant to their work. Support is given for part-time courses, usually those leading to Business and Technician Education Council (BTEC) qualifications although other courses may be used as appropriate. Staff who show high academic potential may apply for support to enable them to attend full-time or sandwich degree courses. All staff are expected to attend management courses at appropriate points in their careers and to attend technical short courses as needs arise. Staff should discuss training needs with supervisor and/or the Training Officer, R20, ext 5266.

Welfare

The Welfare Officer at Harwell Laboratory (tel 72-3061) provides a comprehensive service for all RAL employees and is available for consultation at all times. Close contact is maintained with all local authorities, social services and voluntary organisations.

There is a welfare fund from which help can be given in certain cases. The money for this fund comes from voluntary contributions from staff able to contribute a minimum of 5p per week or 25p per month. Staff who wish to contribute should telephone 72-2128.

Trade Unions and Staff Associations

Staff are encouraged to join their appropriate Trade Union or Staff Association. Telephone numbers of local representatives are listed in the RAL telephone directory. The following Unions and Staff Associations are recognised:

Industrial Unions

Amalgamated Union of Engineering Workers (AUEW); Electrical, Electronic Telecommunication and Plumbing Union (EETPU); General and Municipal Workers' Union (GMWU); Transport and General Workers' Union (TGWU).

Non-Industrial Staff Associations

Civil and Public Servants Association (CPSA); National Union of Civil and Public Servants (NUCPS); Institution of Professional Civil Servants (IPCS).

Unions are represented on the RAL joint consultative committee. Similarly the Staff Associations have representatives on the Whitley committee. The committees meet regularly and are the main channels for communication and discussion between staff and management.

SCIENTIFIC PROGRAMME

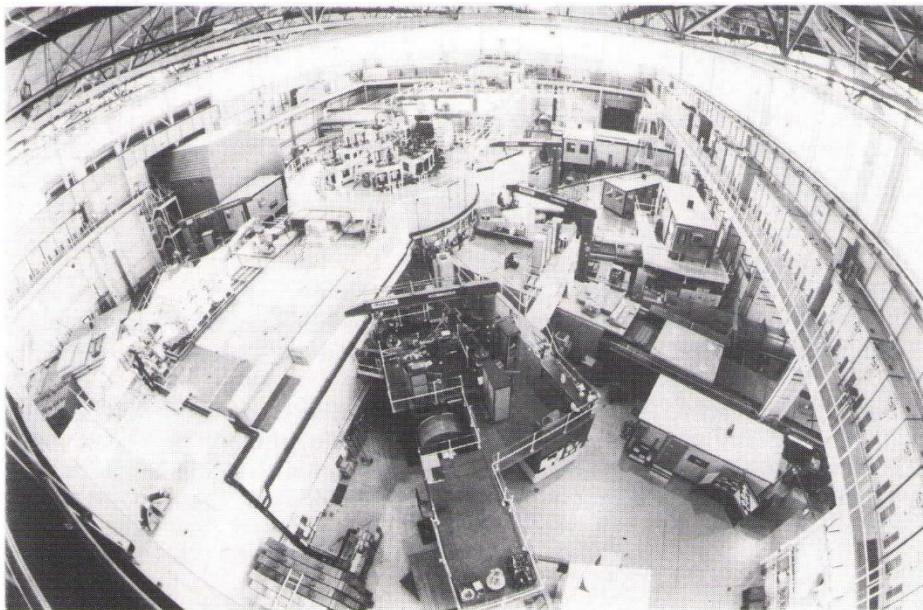
On the following pages, brief sketches are given of the main areas of research at RAL. Further details may be found in the RAL Annual Report.

Neutron Scattering Research

Neutron beams provide a powerful tool for physicists, chemists, biologists and material scientists to study the structure and properties of condensed matter under a variety of conditions.

RAL supports neutron scattering studies by university and other research workers at ISIS, the world's most intense pulsed source of neutrons. Similar work is coordinated by RAL at the reactor at Institut Laue-Langevin, Grenoble.

The Laboratory has an extensive development programme for instruments and techniques associated with this research. Computing and detection systems are particularly important aspects of this work.



The ISIS experiment hall

ISIS also provides muon and neutrino facilities which can be used for research in solid state, nuclear and particle physics.

There is a major international dimension to all aspects of the ISIS scientific programme.

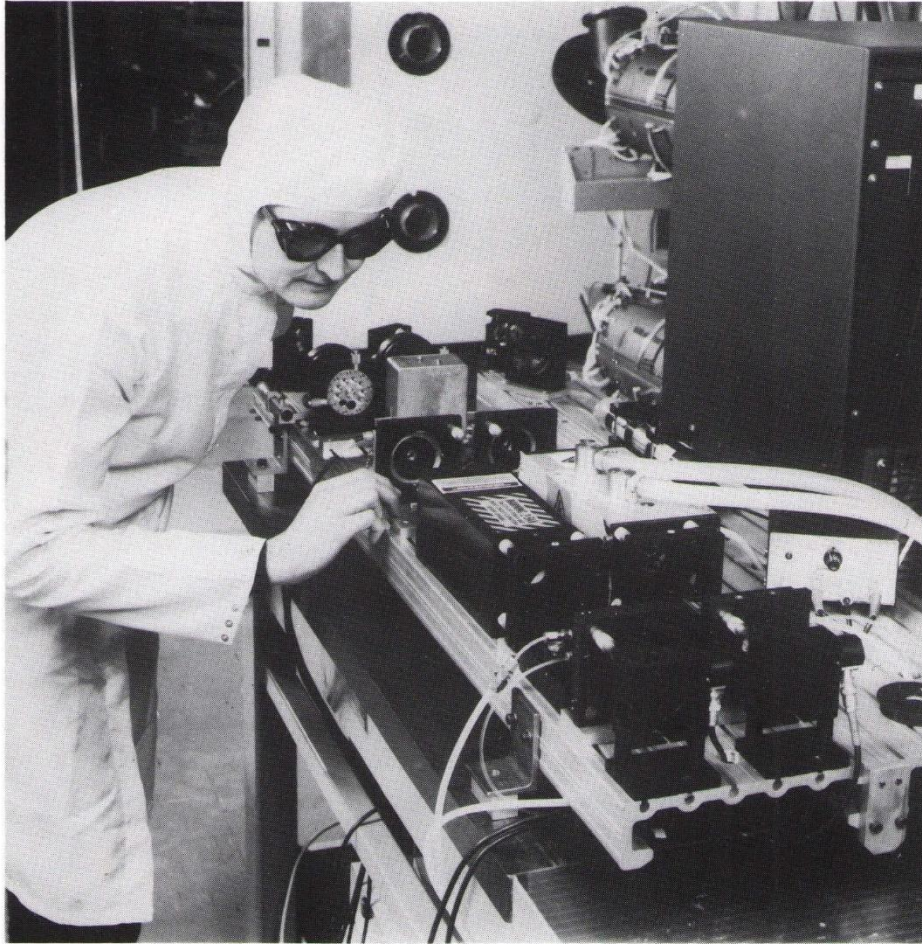


Assembling a gas 'flow-through' furnace for preparing ISIS neutron scattering samples

Laser Research

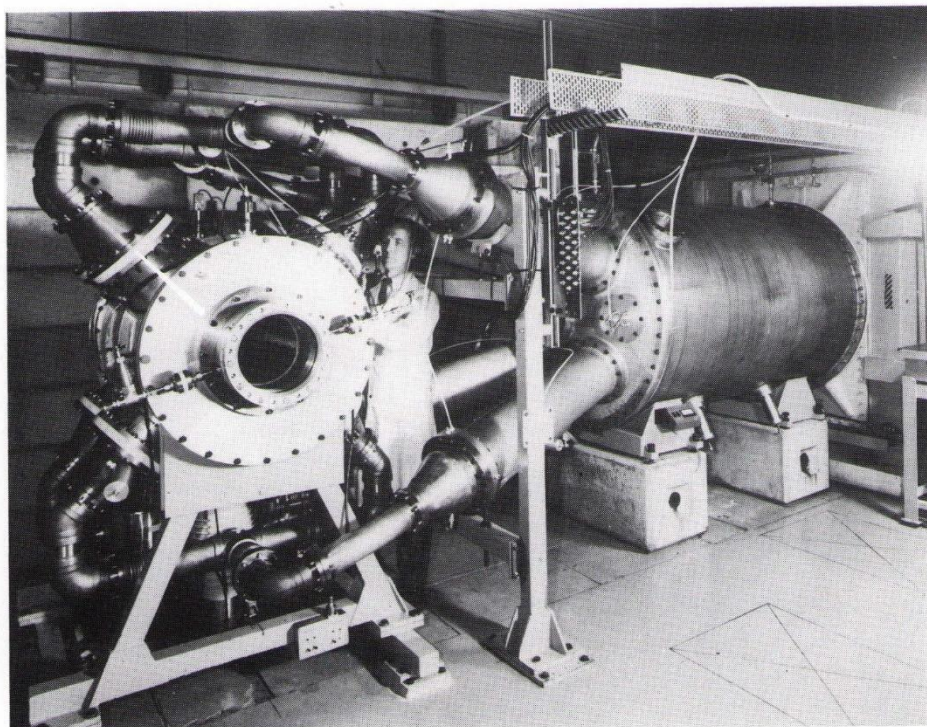
Advanced high-power laser research facilities are provided by RAL's Central Laser Facility for use by UK university research workers in physics, chemistry, biology and microelectronics as well as by industry. Nearly 100 experiments by university groups are carried out each year. The facilities include:

- Vulcan, Europe's most powerful laser, now equipped with a variable geometry target area designed for X-ray laser research;



At work on the Vulcan laser facility

- SPRITE, the world's most powerful UV laser available for research use;



Checking the Sprite Gas Laser

- the Laser Support Facility, which provides tunable radiation at wavelengths from 121 nm in the vacuum ultraviolet to beyond 1500 nm in the infrared and now includes a picosecond laboratory;
- the Laser Loan Pool, which makes advanced laser equipment available for experiments in the user's home laboratory.

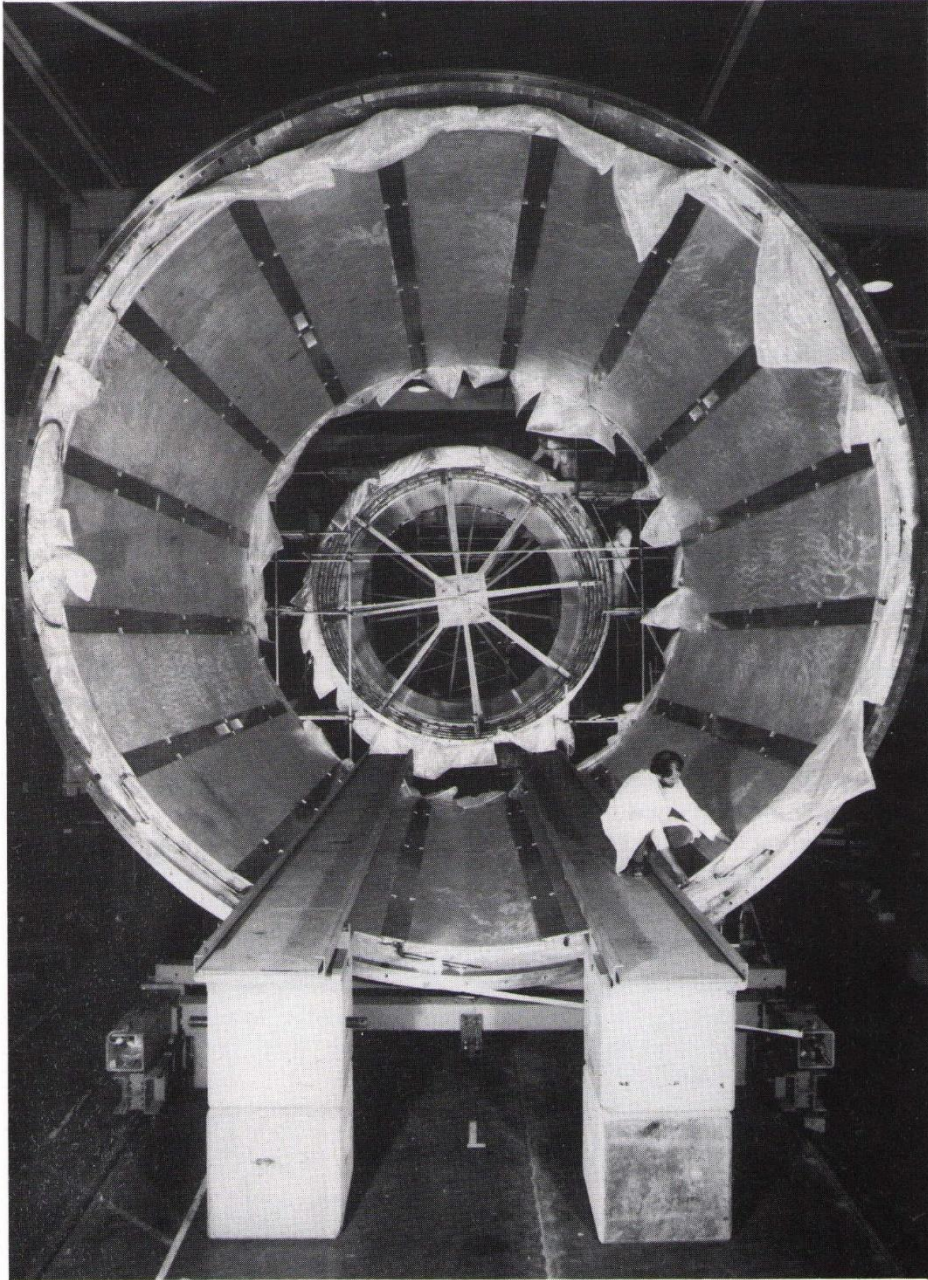
Particle Physics

Particle physics research is aimed at improving understanding of the ultimate substructure of matter and the laws governing fundamental particles. Particle physics experimental apparatus is large and complex, in contrast to the sub-nuclear scale of the processes studied. A typical experiment can take several years to complete.

Most UK experiments use particle accelerators at international research centres such as CERN in Geneva and DESY in Hamburg. There, experiments create conditions similar to those at the birth of the Universe and are of increasing interest to astrophysicists and cosmologists.

RAL supports and helps coordinate UK involvement in this research. Its researchers collaborate with groups from UK universities and its experts in electronics, mechanical engineering and computing work with physicists to design, construct and commission apparatus. Resulting experimental data is collected and analysed using the powerful computing facilities available at RAL.

RAL is also an important centre for particle physics theory, the communication between experimental and theoretical physicists being a powerful source of ideas.



Working on the cryostat shells for the particle detector Delphi

Space

Programmes of cosmic and solar research are prominent in the Laboratory's diverse activities. Cosmic space astronomy concentrates on those radiations, such as ultraviolet and infrared emissions and X-rays, which fail to penetrate the obscuring blanket of the Earth's atmosphere and can be monitored only from instruments on spacecraft. Solar research is important because the Sun is the astronomer's bridge to the study of other stars. It is the only star close enough to study in fine detail and solar astronomy is the basis for our understanding of what happens on other stars. Radiation and particle emissions from the Sun are dominant factors influencing the Earth's atmosphere and ionosphere and control many aspects of life. RAL has played a major role in observations of the Sun from space. The interaction of solar emissions with the Earth's environment in space is another important area of investigation.

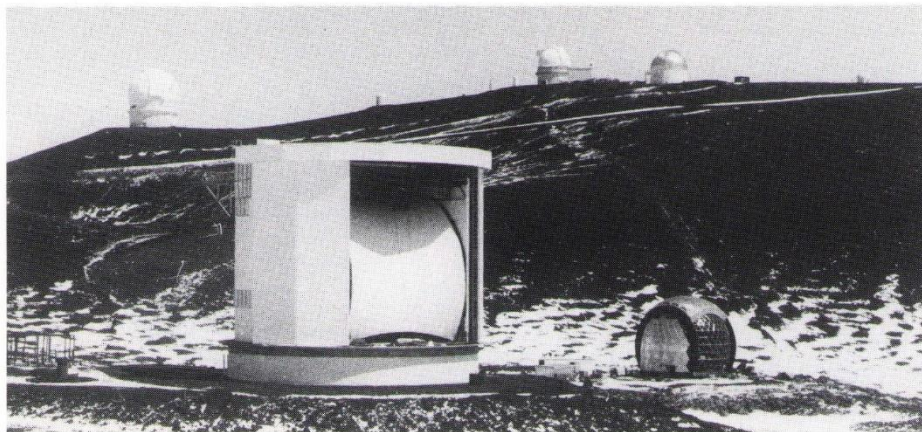
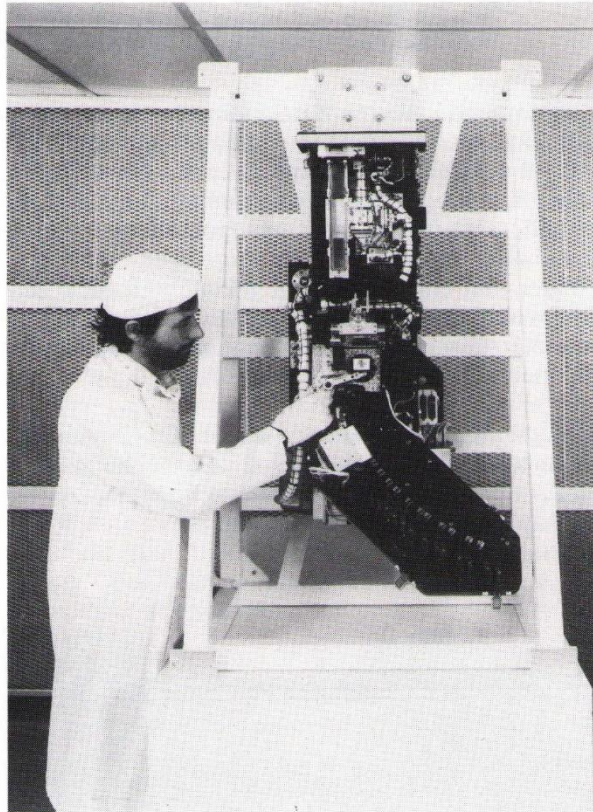
The Laboratory also undertakes a wide range of studies of the Earth's environment. In space, they range from satellite-borne methods of investigating the magnetosphere, the comet-like plasma sheath which surrounds the Earth and extends far beyond the Moon, to instruments for the remote sensing of the sea surface from spacecraft.

The ionosphere, the plasma region nearer the Earth, which plays an important part in the propagation of radio waves, is also a subject of study using such waves as an investigative tool.

Additionally there is terrestrial research, where the understanding of the complex interactions between the Earth's atmosphere, land mass, oceans and ice remains a great challenge for science. Observing the Earth from space through remote sounding techniques provides the means for making global measurements which are essential for understanding the Earth's climate system.

Research into the constituents of the middle atmosphere forms another aspect of the Laboratory's programme of work in which experiments both in space and in the Laboratory are carried out. Many of these activities interact fruitfully with the work of other divisions, particularly in such fields as instrumentation development and satellite-borne investigations.

Cleanroom preparation of the CHASE experiment, flown on NASA's Challenger shuttle to study the Sun



The James Clerk Maxwell Telescope on Mauna Kea, Hawaii

Technology and Engineering

Underpinning the multi-disciplinary research at RAL is a programme of technological development to provide sophisticated apparatus and special capabilities for a wide range of experiments, a consequence being growing demand from other institutions and companies for similar support under contract. RAL has considerable involvement in superconductivity and cryogenics, in instrumentation, data handling and in computing. A recent major project has been the design and construction of the antenna and enclosure for the James Clerk Maxwell Telescope at 4200 m on Mauna Kea, Hawaii. This 15 m diameter millimetre wave astronomical instrument has precision reflector panels developed and manufactured at RAL.

The growing importance of information technology has led to increased activity in micro-electronics including custom-designed silicon microcircuits and their application in novel electrical systems and computers. RAL also supports a facility for electron beam lithography.



A craftsman adds machining instructions to a computer aided design before commands are transferred for computer controlled machining

Computing

RAL provides one of Europe's most powerful batch-processing computer services, based on a powerful mainframe, an IBM 3090, and a Cray X-MP/48 supercomputer which provides national advanced research computing for all branches of science. RAL also carries out research and development in various aspects of computing, data communications and networking.

A national computer network, JANET, linking computers at universities, polytechnics and Research Council establishments, is managed by staff attached to RAL. Extensive facilities are available for remote terminal access, file and job transfer, and electronic mail.

RAL is responsible for the Engineering Computing Facility which provides a national computing service for researchers in engineering and information technology. It is mainly based on single-user workstations connected via high speed local area networks in university departments. The aim is to provide a common infrastructure on all systems based on the UNIX operating system, appropriate libraries and applications software. Of particular interest is the use of parallel computing with special emphasis on the transputer.



*Testing the newly installed
Cray supercomputer*

