

# Introducing the Harwell Heritage Project

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Although the Central Laser Facility was not founded until the late 1970s, some twenty years after the Rutherford High Energy Laboratory was established at Harwell, the CLF fully supports the work that is underway to uncover archive material located near to its facilities and to find out more about the site's heritage.

In April 2022, STFC Executive Board agreed that Campus heritage, and RAL heritage in particular, was worth preserving, and approved the setting up of a small project team to develop the idea further. The Arts and Humanities Research Council (AHRC) has since awarded a grant for a professional archivist to make an initial assessment of the campus archives. These archives encompass the Chilton Computing Collection created by Professor Bob Hopgood, the Ditton Park and Appleton Laboratory Collections created by Matthew Wild and RAL Space, the “stuff in the dungeon” inherited from RAL Library, AERE Harwell memorabilia owned by the Nuclear Decommissioning Authority (NDA) in the shell of the DIDO reactor, and an ever-increasing list of material held by retired and nearly-retired staff either on site or in various spare rooms, home offices and sheds.

Assessment of the various archives is just the beginning of the process; it will take years to produce a full, detailed catalogue. The initial aim is simply to find out what there is. The second aim is to figure out what to do next, and what to do with all the material.

## Getting started on the Project

The Harwell Campus has seen a great number of technological and scientific achievements over its near 80-year history. The AERE Harwell story – with its 14 reactors leading Britain's early atomic energy development – is fairly well known. What is less well known is that Harwell also built 12 accelerators of various designs that were key not only to the formation of the Rutherford High Energy Laboratory (RHEL) next door, but also to the development of accelerators at CERN.

A decade younger, the early part of the Rutherford Laboratory story is also a mystery to many. Information is scant and scattered; people who were there are no longer here, and we are in danger of losing our institutional memory.

A year or so ago, what used to be the Laboratory Archives were (re)discovered in what used to be the NIMROD (“National Institute Machine Radiating On [the] Downs” or “National Institute Machine for Research On the Downs”) Motor Alternator Hall Basement.

The basement measures 37 x 15 m and is divided into eight secure cages, of which the Library Archives is one of the largest. This cage contains six rolling stacks holding five tons of material on 1.5 km of shelving. As can be seen in the photograph, this was nothing like a standard office environment. Explorations began...

Over the last year or so, much original material has been rediscovered from the early days of the laboratory in the 1950s until the 1980s, when use of the cage ceased for archival purposes. Much of this has been scanned and is available in the "Rutherford Laboratory" and "AERE Harwell" sections of the **Chilton Computing** website.

The timeline overleaf includes a few of the photographs that have been found so far, which provide a fascinating insight into RAL's early history. More information on the photographs, papers and other material uncovered by the project can be found in the online version of this report.



The basement archives in October 2022. The first challenge was to push the door open and clamber round an over-loaded trolley. Happily, the cage is now considerably tidier and far more accessible.



## A journey through time

### Rutherford High Energy Laboratory (1957)

Both John Cockcroft and Edward Appleton (at the time Secretary of the Department of Scientific and Industrial Research (DSIR)) were instrumental in naming the new national accelerator facility Rutherford High Energy Laboratory, in honour of their PhD advisor at Cambridge, Nobel Prize-winner Sir Ernest Rutherford.



Aerial view of Rutherford Laboratory looking east. In the foreground is the green mound of Nimrod; the star shape of the R22 Restaurant is eastwards centre, with the houses of Frome Road in the distance (1963).

### Rutherford Laboratory (1975)

The “High Energy” part of RHEL’s name was dropped in 1975 to reflect the wider scientific interests of the Laboratory and its recent merger with the Atlas Computer Laboratory.

### Radio Research Station (1924) and Appleton Laboratory (1973)

In 1924 the DSIR formed the Radio Research Station (RRS) at Ditton Park, near Slough, to research radio science and to continue Edward Appleton’s ionospheric work which he began in the 1920s.

The Station was renamed the Radio and Space Research Station (RSRS) in 1965 to better reflect their wider work and facilities, which now included an 85-foot (26 m) radio telescope capable of following earth satellites, and artificial satellites, known as Topside Sounders, to explore the ionosphere from above.

RSRS was renamed yet again on 7 November 1973 to Appleton Laboratory in honour of Nobel Prize-winner Edward Appleton.

### Central Laser Facility (1977)

In 1975, the government gave approval for the Science Research Council (SRC) to provide at RL a high-power laser for use by academia. The Central Laser Facility was formally inaugurated in 1977, and its Neodymium Glass Laser began operations. This laser is now known as Vulcan (Versicolor Ultima Lux Cohaerens pro Academica Nostra or The latest multi-coloured coherent light for our academics).



Components of the Vulcan laser being delivered to the west end of R1 (25 September 1976).

### Rutherford Appleton Laboratory (1979)

Appleton Laboratory was closed in 1979 and many of the staff transferred to Rutherford Laboratory, whereupon it was briefly known as The Rutherford and Appleton Laboratories before simplification to the modern-day, and more digestible, Rutherford Appleton Laboratory.



Three Directors all in a row: John Houghton, Godfrey Stafford and Geoff Manning. In the background is the IRAS project's 12-metre Transportable Ground Station (aka The Dish) built on behalf of NASA in the 1960s. (September 1979).



Aerial view of Rutherford Laboratory looking north. The NASA/IRAS satellite dish is in the right foreground with the R22 Restaurant further to the north. The hill covered in dried grass is Nimrod/ISIS spoil (this photo was taken in July); the accelerator mound itself is the green(ish) circle northwards (1984).