

Extracts from College Annual Report

1982 - 1983

The Principal's report

Other academic developments

A number of new academic developments have also taken place in the College during the session, which did not stem from discussions at University level. A Centre for Information Technology has been established involving collaboration primarily between the Department of Computer Science and Statistics and that of Electrical and Electronic Engineering. It is hoped that **this** development will benefit from the mounting interest in information technology at the present time.

The College has continued to develop its research activities in important areas of knowledge, both arts and science based. Two activities of especially worthy note are the contribution the College has made to knowledge in its involvement at CERN in Geneva with the discovery of the W and Z particles during early 1983 and in its participation in the Infrared Astronomical Satellite (IRAS) project.

The experiments performed at CERN using the proton-antiproton collider, which have involved up to eight members of the QMC Physics Department, have provided results hailed as the most outstanding achievement of the CERN laboratory and one of the most important advances in physics in this century.

IRAS is also an international project (UK, Holland, US) and four astronomers from QMC have been involved in the planning, execution and analysis of results from the new satellite launched in January 1983 and providing the first unbiased survey of the whole sky in the infrared region of the spectrum between ten and 120 microns.

Publications by members of staff

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Research grants and contracts 1982-83

The College Governors make grateful acknowledgement of the following:

<i>Donor</i>	<i>Department and supervisor</i>	<i>Value £</i>	<i>Project</i>
Hirst Research Centre	Physics Dr D Bloor Dr E G Wilson Dr D N Batchelder	20,000	Polydiacetylene film materials and characterisation.
Marconi Research Centre	Physics Dr D Bloor	4,760	Synthesis and polymerisation of distributed diacetylenes.

Science and Engineering Research Council	Chemistry and Physics Professor J Pritchard Dr D N Batchelder	76,725	FT-IR spectroscopy of metal catalysts and conducting polymers.
Science and Engineering National Research Council	Physics Dr P A R Ade	1,210	Observations at American Radio Astronomy Observatory in Arizona/Kin Peak NS/58/82 millimetre wave narrow band photometry of extragalactic objects.
Science and Engineering Research Council Mauna	Physics Dr P A R Ade	1,762	Observations at United Kingdom 3.8m Infra-red Telescope at Kea Hawaii U/D/55 submillimetre observations of dark clouds.
Science and Engineering Research Council	Physics Dr P A R Ade	60,521	Development of 3He photometer systems for submillimetre astronomy.
Science and Engineering Research Council	Physics Professor J A Bastin	950	The equilibrium shape of rotating objects under Van Der Waals attraction.
Science and Engineering Research Council	Physics Dr D Bloor	10,950	Studies of diffusion limited recombination in polymers.
Science and Engineering Research Council and	Physics Professor J M Charap	8,834	Visiting Fellow Dr J H Schwarz. Supersymmetric string theories extended supergravity.
Science and Engineering Research Council	Physics Dr P E Clegg	5,440	Support for IRAS Mission Operations.
Science and Engineering Research Council	Physics Dr S Harris	75,598	SERC Advanced Fellowship.
Science and Engineering Research Council	Physics Dr P I P Kalmus	172,181	Particle physics experiments.
Science and Engineering Research Council	Physics Professor D H Martin	10,840	Submillimetre-wave cosmic background measurements.
Science and Engineering Research Council statistical	Physics Dr G L Sewell	1,500	Mathematical foundations of non-equilibrium quantum mechanics.
Science and Engineering Research Council Mauna	Physics Dr G J White	6,858	Observations at United Kingdom 3.8m Infra-red Telescope at Kea Hawaii U/D/20 COcJ=3 — 2 and 4-3) Observations of BOK Globules.
Science and Engineering Research Council Mauna	Physics Dr G J White	11,674	Observations at United Kingdom 3.8m Infra-red Telescope at Kea Hawaii U/C/54 CSJ=7—6 and j=5—4 studies of dense molecular

cloud cores.

Science and Engineering
Research Council
(Rutherford Appleton
Laboratories)

Physics
Dr M Green

4,000 Access to the DAP.

United Kingdom Atomic
Energy Authority

Physics
Dr W Young

38,496 Calculations for Martensitic
transformation in transition
metal alloys.