

## LEICESTER RESEARCH GRANTS AND BOOKS

### Press Coverage of Research Grants

The Bulletin is sent to the media as well as other external contacts. As a result, details of grants appearing in this section may stimulate press interest. The Press Office may also actively seek media coverage of particular grants detailed in this section. It is therefore the grantholder's responsibility to request that any grant of a sensitive or confidential nature be excluded from the Bulletin. This can be done by contacting the Research Office, which has responsibility for compiling this Research section (2495).

#### ANAESTHESIA & PAIN MANAGEMENT

**Dr D G Lambert**  
Supplement – Studies on the Desensitisation of the Recombinant VRI Receptor – PhD Studentship  
£8,220 (supp) *British Journal of Anaesthesia*

#### ARCHAEOLOGY, UNIVERSITY COLLEGE, LONDON

**Prof D Mattingly, Dr D Q Fuller**  
Crop Dispersal and Agricultural Adaption in the Libyan Sahara  
£3,603 *NERC*

#### BIOCHEMISTRY

**Dr M D Carr**  
Determination of the Structure and Molecular Function of the esat-*cfp10* Complex, and Characterisation of the Specificity of Complex Function of the esat6/*cpf10* Family Proteins. Towards an Understanding of the Roles of esat6/*cpf10* in Tuberculosis Pathogenesis and Protective Immunity  
Tuberculosis is a major infectious disease of humans, which is responsible for the deaths of about 3 million people annually and is a growing world wide problem. The bacterium responsible for the disease in humans is *M. tuberculosis* and it was one of the first organisms to have its complete instructions for life decoded. A major challenge for current and future scientific research in the tuberculosis area is to identify which of the nearly 4000 sets of instructions (genes) carried by *M. tuberculosis* are required for the bacteria to infect humans and to understand what the molecular machines (proteins) produced by these genes are doing and how. In the long-term, this type of research will lead to the development of improved tuberculosis therapies and vaccines. The research project supported by the Wellcome Trust is focussed on a family of these molecular machines (the ESAT-6/*CFP-10* protein family), which appear to play a key role in the infection process and in the development of protective immunity. The general aim of the work is to determine the function of the ESAT-6 and *CFP-10* proteins in order to understand their role in infection.  
£189,286 *Wellcome Trust*

**Prof P B Farmer**  
Molecular Biomarkers of Dose and Effect of Genotoxins  
£2,669,054 *MRC*

**AIRNET – A Thematic Network on Air Pollution and Health**  
£22,235 *CEC via University of Utrecht*

**Dr A Fry**  
Supplement – Year 3 – Investigation of the Role of the Centrosome in Bipolar Spindle Formation and Chromosome Segregation  
£50,979 (supp) *Cancer Research Campaign*

**Dr M Manson**  
Chemoprevention of Cancer – Molecular Mechanistic Studies  
£1,118,666 *MRC*

**Dr A Munro**  
Structural and Functional Genomics of *Mycobacterium Tuberculosis*  
Tuberculosis poses a grave global health problem. Drug-resistant and multi drug-resistant strains of the pathogen *Mycobacterium tuberculosis* are widespread, and the infection has re-emerged as a major killer in the developed world. The recent determination of the *M. tuberculosis* genome sequence has been a critical breakthrough in understanding the biology of the pathogen, and has the potential to enable identification of new drug targets and to deliver new antibiotic therapies. The purpose of this multi-centre EU grant is to perform detailed genetic, biochemical, enzymic and structural analysis of several key enzyme systems in the pathogen. All of these systems have potential as new drug targets. The overall aim of this EU network grant is to facilitate trans-european collaboration in order to develop new strategies against TB – which is once again the biggest killer worldwide of all infectious diseases.  
£105,882 *CEC via Institut Pasteur*

**Dr M Pfuhl**  
Supplement – University Research Fellowship  
£21,681 (supp) *Royal Society*

**BIOCHEMISTRY, UNIVERSITY OF CAPE TOWN**  
**Prof P B Farmer, Prof I Parker**  
Mechanism of Mutagenesis in Oesophageal Cancer in South Africa  
£9,950 *British Council South Africa*

**BIOLOGY**  
**Dr S G Møller**  
Light Signalling and Intercompartmental Communication between Chloroplasts and the Nucleus  
How organelles communicate with one another inside a cell is probably one of the most fascinating questions in biology. In plant cells plastids communicate with the nucleus by means of retrograde plastid signals. We have isolated a far-red light insensitive *Arabidopsis* mutant (*laf6*) disrupted in a plastid-localised ABC-like transport protein (*atABC1*). *atABC1* deficiency results in protoporphyrin IX accumulation and attenuation of nuclear gene expression and our data suggests that protoporphyrin IX may act as a retrograde plastid signal influencing hypocotyl elongation. We will use biochemical and protein-protein interaction studies to elucidate how *atABC1* regulates protoporphyrin IX retrograde signalling in *Arabidopsis* and a new genetic screen for mutants insensitive to increased protoporphyrin IX levels will yield insight into the role of chloroplasts in photomorphogenic responses. This research programme will not only start to dissect interorganellar communication networks in plant cells but will potentially lead to the identification of protoporphyrin IX sensing/binding proteins which could be useful in designing herbicide resistant plants.  
£191,468 *BBSRC*

**Prof D Twell**  
Comprehensive search for pollen-expressed and pollen-specific genes important for male gametophyte development  
The proposed work programme is designed to exploit GeneChip® screening technology to comprehensively analyse gene expression during male reproductive development in plants. The key objective is to use this state-of-the-

art technology to monitor the activity of more than 8,000 genes simultaneously. This will enable us to establish a database of pollen active and pollen-specific genes. This information will subsequently be used to investigate the role of key regulatory proteins controlling pollen development and function. This will be of particular value in understanding mechanisms of cell growth and male fertility in plants, which is of vital importance in plant breeding strategies and crop productivity.  
£13,120 *Royal Society*

**CELL PHYSIOLOGY & PHARMACOLOGY**  
**Dr R J Challiss, Prof S R Nahorski**  
Supplement – GPCR Constitutive Activity  
£3,750 (supp) *Novartis Pharmaceuticals*

**Dr I Forsythe**  
Supplement – Modulation of Voltage-Gated Ion Channels at a Glutamatergic Synapse – Prize Studentship – P Dodson  
£2,876 (supp) *Wellcome Trust*

**CENTRE FOR LABOUR MARKET STUDIES**  
**Prof D Ashton, Prof L Unwin**  
Learning Styles  
£15,479 *Inland Revenue (Lincoln)*

**CHEMISTRY**  
**Dr P Monks**  
INSPECTRO – Influence of Clouds on the Spectral Actinic Flux in the Lower Troposphere – FP5 EESD  
Ultraviolet radiation is one of the main factors driving tropospheric photochemistry and is strongly modulated by clouds and aerosols. A quantitative understanding of the radiation field and its effect on photochemistry is only possible with a detailed knowledge of the interaction between clouds and radiation. This knowledge is particularly required for regional and global chemistry models, which at present rely on very simple parameterizations for clouds. The INSPECTRO project combines space-based, aircraft and ground-based measurements as well as simulations with models to characterize the



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University of Leicester



radiation field in the presence of broken clouds. The goal of the project is to improve the understanding of the three-dimensional ultraviolet radiation field and its implications for photochemistry in the lower troposphere under conditions representative for Europe.  
£18,219 CEC via IFU

**CHILD HEALTH****Dr C Beardsmore****Supplement – Respiratory Function in Infants Following ECMO**

This supplementary award will enable us to continue the follow-up of infants who receive Extra-Corporeal Membrane Oxygenation (ECMO) for severe lung disease. To date, we have seen over 60 infants, most of whom were born at full-term and require ECMO for only 3 or 4 days. Many of them have a very good recovery but about half need another hospital admission during the first year of life, usually with a breathing-related problem. Wheezing is fairly common in this group but few of the infants require regular medication. Although many of these infants have normal or near-normal lung function others do not, and we are able to identify those with over-expanded lungs (hyperinflation) or evidence of narrowed airways.

£12,100 (supp) Glenfield Hospital NHS Trust

**CHILD HEALTH, MICROBIOLOGY****Dr C O'Callaghan, Prof P Andrew****Supplement – Experimental Pneumococcal Meningitis: The Effect of Streptococcus Pneumoniae and its Virulence Factors on the Functioning and Integrity of the Ciliated Ependyma**

13,723(supp) Wellcome Trust

**CLINICAL BIOCHEMISTRY****Prof J Lunec****Studentship – Microarray Study of the Adaptive Response – Student – Mr T P D L C Duarte**

£21,915 Portuguese Government

**DERMATOLOGY, MICROBIOLOGY & IMMUNOLOGY****Dr J M Hales, Dr P Freestone****Psoriasis, Streptococcus Pyogenes and Stress**

£11,500 The Psoriasis Association

**ECONOMIC & SOCIAL HISTORY****Dr B P Attard****Australasia and International Capital Markets, 1850-1950**

From the mid-nineteenth century, Australia and New Zealand were significant recipients of foreign capital. The aim of this research is to complete a study of their relationship with international capital markets that will focus on their histories as borrowers and debtors; the rise and consolidation of the British 'colonial' market in London from the mid-nineteenth century through to the late 1920s; and the interaction between the market disciplines to which all borrowers were subject, and the opportunities and constraints created by membership of the British Empire. The research fund-

ed by the present grant will involve the consultation of archival and printed official sources relating to the nineteenth century in the United Kingdom and Australia; the extension and revision of statistics of Australian and New Zealand public debt between 1850 and 1950; and the creation of a database of Australasian overseas public loans.  
£9,992 ESRC

**ECONOMICS****Prof H Scarborough****Evolution of Business Knowledge:**

**Programme Director: Interim Contract**  
£12,885 ESRC

**EDUCATION****Dr C Comber, Dr M Brundrett****Evaluation of 'Developing School Effectiveness by Improving the Management and Leadership of ICT'**

£9,835 BECTA

**Mr P Herbert****Time for Jazz**

£31,320 East Midlands Arts and National Foundation for Youth Music

**Dr R Watling, Dr R McEune****External Evaluation of the RIOT Project**

£1,000 Galleries of Justice

**EPIDEMIOLOGY & PUBLIC HEALTH****Dr S Ablett****High Risk Neuroblastoma Study of SIOP Europe**

£25,993 Cancer Research Campaign

**Prof M Clarke****Supplement – Trent Neonatal Survey**

£71,759 NHS Executive Trent (Sheffield)  
(£17,500 supplement and £54,259 under reported last year)

**EPIDEMIOLOGY & PUBLIC HEALTH, CHILD HEALTH, OBSTETRICS & GYNAECOLOGY****Mrs E Draper, Prof D Field, Dr J Konje**  
**MOSAIC – Models of Organising Access to Intensive Care for Very Preterm Births: A Study of 10 European Regional Health Systems**

The organisation of obstetrical and neonatal health care services varies greatly throughout Europe. This project aims to analyse the diversity across 10 European Regional health systems to identify models of care that maximise access to intensive care and achieve the best health results for very preterm newborns (delivered before 32 weeks gestation) and their mothers. Our goal is to assess the advantages and disadvantages of different models in the context of their health infrastructures and geographical constraints.  
£69,489 CEC via INSERM

**EPIDEMIOLOGY & PUBLIC HEALTH WITH UNIVERSITY OF SHEFFIELD****Dr K Williams, Dr K Abrams**  
**Systematic Review and Evaluation of Methods of Assessing Urinary Incontinence**

£69,893 NHS R & D (HTA)

**GENERAL PRACTICE****Prof R H Baker****Supplement – Replacement Costs for Dr Lakhani**

£5,181 (supp) Royal College of General Practitioners

**GENETICS****Prof C P Kyriacou****Molecular Genetics of Aggression**

£9,122 The Harry Frank Guggenheim Foundation

**Dr M Plumb****Supplement – Identification of an Imprinted Tumour Suppressor Gene**

£7,737 (supp) Leukaemia Research Fund

**GEOGRAPHY & INSTITUTE OF LIFELONG LEARNING****Dr S Page****STRAPEAT – Strategies for Implementing Sustainable Management of Peatlands in Borneo, FP5 – INCO-DEV**

This three-year research project is funded by the European Union (approx. €1 million between 12 partners). It succeeds a previous EU-funded project investigating the natural resource functions and biodiversity of tropical peatlands in the Southeast Asian region. This new project will use the database of information developed during the previous programme to formulate strategies for implementing improved management of tropical peatlands.

Tropical peatlands are currently under considerable threat from land degradation, clearance and fire. The STRAPEAT project will focus its activities on the island of Borneo, which itself supports 11 million hectares of peatland (an area almost half the size of the land area of the UK). The natural peat swamps of Borneo are important reservoirs of biodiversity, including rare and endangered animals such as the orang-utan. They also perform valuable natural resource functions, such as carbon sequestration and flood control. Despite their environmental importance, however, they are being developed at a rapid and increasing rate, with several recent development projects resulting in severe damage both at a regional and a global scale. The STRAPEAT project aims to confront the issues of resource management and sustainability of tropical peatlands by formulating wise-use guidelines.  
Value Reported in December/January Bulletin Supplement

**GEOGRAPHY, KING'S COLLEGE****LONDON****Prof A J Parsons****Supplement – Jornada Basin LTER IV**

£55,200 (supp) National Science Foundation via New Mexico State University

**GEOLOGY, BRITISH GEOLOGICAL SURVEY****Dr R W England, Prof P Maguire, Dr R A Chadwick and Dr T C Pharaoh****Studentship – (PhD) The Relationship between Topography and Crustal Structure**

It is generally thought that the Earth's crust 'floats' on the mantle in the same way that icebergs float in the ocean. However, there are parts of the earth's surface where mountains are not supported by buoyant roots, and where thin crust is not supported by upwelling mantle. The crust is not sufficiently strong to support the weight of the mountains and hence new ways of describing the controls on surface topography need to be developed if we are to understand how landscapes are formed and sediment sources created. The UK is crossed by the highest density of deep seismic images which constrain the thickness of the crust and its properties. These will be used to build a 3-D model of the deep structure of the UK and develop improved methods of explaining how surface topography evolves.  
£15,300 British Geological Survey

**LAW****Prof C Graham, Mr M Fitch****Help From the Trust**

£9,100 Severn Trent Trust Fund

**LAW, GENERAL PRACTICE****Mr M Fitch, Dr A Wilson****Applying for Help to Pay Your Water Bill The University of Leicester is to ask people what it's like applying to a charity if you can't pay your water bill.**

The Severn Trent Trust Fund is an independent charity that helps people with water debts and other bills or costs they cannot meet. It has agreed a research contract with the University for the Centre for Utility Consumer Law to interview applicants to its Fund. The idea is to find out how people experience their application, how it makes them feel about themselves, and what people feel they have to give in return.

The research will be directed by Cosmo Graham, Professor of Law, and guided by a steering committee including Trustees and staff of the Severn Trent Trust Fund. Professor Graham commented, "Water charities have emerged in recent years as a consequence of the far-reaching changes to our water supply and social security arrangements. Views about charitable help tend to be divided. We hope this research will help inform debate about ways of ensuring all of us can access essential services like water supply – not least by finding out from applicants themselves what it's like applying to a water charity."  
Value Reported in February/March 2002 Bulletin Supplement

**MATHEMATICS AND COMPUTER SCIENCE****Dr P Houston****Advanced Fellowship – Anisotropic hp-Adaptive Finite Element Methods for Hyperbolic Conservation Laws**

The ever-increasing range of applications of nonlinear conservation laws of hyperbolic/nearly hyperbolic type is a fertile source of difficult and challenging problems with important implications in



engineering design; typical examples include the modelling of compressible viscous and inviscid fluid flows, as well as wave propagation in electromagnetic applications.

Typically, solutions to these partial differential equations exhibit a wide range of localised structures, such as shock waves, contact discontinuities, boundary layers and rarefaction waves, and their numerical approximation presents a very challenging task. The key objective of this project is to address the issue of solution quality; namely, how accurate is the numerical solution and how can the most accurate solution be attained for a fixed computational resource? To this end, the aim of the proposed research is to develop a comprehensive mathematical theory of anisotropic finite element methods which incorporate both local mesh subdivision and local polynomial enrichment. In particular, a priori and a posteriori error bounds will be established for families of finite element spaces consisting of shape-irregular (anisotropic) meshes with anisotropic polynomial degrees. Here, bounds on the discretisation error measured in terms of negative Sobolev norms, as well as for general target functionals of engineering interest, will be derived. Both linear and nonlinear problems will be considered.  
£228,485 EPSRC

**Prof S C Koenig, Dr Snashall**  
**Alliance: Franco-British Partnership Programme 2002**  
£2,430 British Council

**Dr V R R Schmitt**  
**Enriched Categories Applied to Computer Science**  
£62,805 EPSRC

**MICROBIOLOGY & IMMUNOLOGY**  
**Dr S Kilvington**  
**Acanthamoeba Chemotherapeutic and Disinfectant Agent Development**  
£17,536.48 Bausch and Lomb

**MUSEUM STUDIES**  
**Prof E Hooper-Greenhill, J Dodd**  
**Learning Impact Research Project: Research Activities, Key Deliverables and Costs (Phase One)**  
The Research Centre for Museums and Galleries (RCMG) has been commissioned by Resource: the Council for Museums, Archives and Libraries to work with them on the development of their Learning Framework for museums, archives and libraries in England. The Learning Framework aims to set standards of organisational provision for learning, and will facilitate the exploration and mapping of the learning outcomes of users of all kinds of museums, archives and libraries.

The Learning Impact Research Project aims to come to an understanding of 'learning' and 'learning outcomes' in museums, archives and libraries according to learning theorists, sector users, and sector professionals (including formal and informal learning); and then to develop a limited number of generic methods/tools of collecting, collating,

analysing and demonstrating evidence of these learning outcomes. The tools must be appropriate for use in all types of organisation, and capable of gathering qualitative data that may be coded/categorised in a quantitative way. These tools and the necessary methodologies will, after piloting during Phase Two of the project, be presented as a Toolkit for use with the museum, archive and library fields.

The ultimate aim of the Learning Framework is to demonstrate to government the impact of learning of the cultural organisations that are overseen by Resource.

£41,783 RESOURCE

**Prof E Hooper-Greenhill, Dr R Parry**  
**TCS Programme No. 3814 between University of Leicester and Mackenzie Ward Limited**  
£97,725 TCS/  
Mackenzie Ward Ltd

**Dr S Knell**  
**Mirroring Communities of Practice in the Natural Science through Technology**  
Professional lives have two quite different aspects. On the one hand we operate in a formal world of hierarchy, pay and conditions, but on the other our work exists within rather nebulous and overlapping communities of practice where shared beliefs, values and interests create relationships, extend learning and information sharing, and lead to innovative practice. A museum geologist, for example, may operate within communities engaged in life-long learning, palaeontological research, local planning, professional standards and so on. With a total value of £1.6 million this two-year collaborative project will explore the nuances of such communities and develop technological solutions to encourage learning and innovation. While it will begin with a community of museum natural scientists it is anticipated that the resulting technology will have widespread application in other communities. Our partners include Greek and Austrian technology companies, Syntax, Pouliadis Associates and UMA, the Royal Belgian Institute of Natural Science, Manchester Visualization Centre and the University of Athens.  
£119,838 CEC via Syntax SA

**OBSTETRICS & GYNAECOLOGY**  
**Dr F Al-Azzawi**  
**Supplement – Fixed-Term Lectureship in Molecular Endocrinology**  
£25,000 (supp) Institute of Women's Health

**Prof A Halligan**  
**Donation for Pre-Eclampsia Studies**  
£69,168 Bayer Corporation

**Dr J Konje**  
**Pre-Eclampsia and Growth Restriction**  
£41,770 TNO

**Dr I White**  
**Receptor Mediated Toxicity**  
There is a slightly increased risk of uterine tumours in breast cancer patients taking the drug tamoxifen (Nolvadex).

The mechanisms responsible for this effect are unclear, but it is thought to be associated with the oestrogen-like effects of tamoxifen on the uterus causing cell proliferation and the promotion and progression of DNA damage via oestrogen receptors. A related drug raloxifene (Evista) is used for the treatment of osteoporosis but has a much weaker oestrogenic effect on the uterus. The programme of work will study ways in which this class of oestrogen receptor modulator interacts with uterine and breast cells. We will compare differences in toxic response between the two cell types and try to establish factors that might predispose cells to become cancerous. In the broader view, this programme will investigate the role that growth regulation and somatic mutations play in epigenetic mechanisms of carcinogenesis.  
£767,538 MRC

**ONCOLOGY (RKCSB)**  
**Prof A Gescher**  
**Mechanism of Hepatotoxicity of the Antitumour Agent ET-743**  
Ecteinascidin 743 (ET-743), a chemical isolated from a marine tunicate, is one of the very few experimental anticancer drugs discovered in the last 5 years which possess objective antitumour activity in patients. Unfortunately its efficacy is accompanied by liver damage in most patients. We study the hepatotoxicity of this drug by exploring changes in histopathology, electron microscopy, plasma and liver biochemistry and hepatic gene expression profiles. We have identified the biliary tract as the prime target of ET-743 toxicity. We currently explore whether other drugs given in combination with ET-743 can counteract its adverse effect on the human liver.  
£62,313 Pharma Mar

**Preclinical and Clinical Studies of Cancer Chemopreventive Agents**  
The aim of this research programme is to characterise diet-derived cancer chemopreventive agents, study their mechanisms of action, prepare potentially promising agents for clinical evaluation, elucidate their pharmacokinetic and pharmacodynamic properties, and test promising agents in the clinic. To date curcumin, a component of turmeric, has been through all stages of development as a potential agent to prevent colon cancer. Other agents are at an earlier development stage. The work will be conducted within the framework of the "Leicester Cancer Biomarkers and Prevention Research Group", consisting of the grantee, Profs WP Steward (Oncology) and PB Farmer and Dr MM Manson (both Biochemistry). A key feature of the Group is the unique combination of chemical, biochemical, pharmacokinetic, pharmacodynamic and oncological expertise. The characterisation of the chemopreventive activity of food constituents and related compounds will ultimately help formulate dietary advice and/or prophylactic drug strategies for individuals at particular risk of developing cancer. Such research has the potential to improve, in a fundamental way,

the health of the nation by greatly reducing the cancer burden.  
£1,158,092 MRC

**OPHTHALMOLOGY**  
**Prof I Gottlob, Dr F Proudlock**  
**Supplement – Functional Magnetic Resonance Imaging and Vision**  
£126,071 (supp) Ulverschroft Foundation

**PATHOLOGY**  
**Dr S Pavord, Prof K Pasi**  
**Thromboelastography, Thrombophilia and Pregnancy**  
£12,000 Woodhouse Eaves Committee

**PHYSICS & ASTRONOMY**  
**Dr C Nicklin**  
**The Structure of Platinum Surfaces Under High Gas Pressures**  
£4,046 EPSRC

**Prof C A Norris**  
**The Growth of the Ternary Semi-Conductor, Indium Antimonide (oo1)**  
£250 CLRC

**Dr J Osborne, Dr J Pye**  
**Purchase of Weblogic Software**  
This grant will enable the Leicester Database and Archive Service (LEDAS) to provide an upgraded java-based user-interface to its growing archive of data from the US X-ray astronomy satellite 'Chandra'. LEDAS has been a national provider of high energy astronomy data for over seven years, and currently holds around 600 GB of raw, processed and summary data from the important past and current X-ray astronomy satellites. The single point of availability provides fast and convenient access for the UK astronomy community, together with added-value services such as high-capability database functions and access to data in related astronomical domains. Chandra is the latest of the NASA 'great observatories', providing wonderful images of the X-ray sky with a clarity never seen before. Launched in the summer of 1999, we expect it will continue for many years to come. LEDAS is the only non-US archive provider of Chandra data.  
£9,926 Smithsonian Institution

**Mr D Smith**  
**An Educational Satellites Card Game**  
An informative card game has been designed for the general public, and in particular school children, to stimulate interest in past, present and future scientific satellites. The game includes facts about 32 different scientific satellites, including the Hubble Space Telescope and the International Space Station, along with a web address specific to each satellite that can be used to find out more information. Any UK involvement with each of the satellites is also indicated to promote awareness of the large UK involvement in space science and astronomy missions. The award will allow production of a number of copies of the game, which will then be taken into local Leicester



schools to obtain feedback from both pupils and teachers. If this pilot scheme is successful the game will be developed into a fun educational tool that, with the inclusion of teachers notes, can be distributed to a larger number of schools in the future.

£1,000 PPARC

**Prof A Wells, Prof N Nelms**  
**Supplement – A New Determination of the Charged Pion Mass**

A large area CCD X-ray detector has been designed and built in the Space Research Centre as part of an experiment in the proton cyclotron at the Paul Scherrer Institute (Switzerland) designed to measure the charged pion mass. The detector is based on a similar sensor now flying on the ESA XMM-Newton spacecraft. The experiment, and especially the CCD detector was operated successfully over a ten-week period in mid-2000, measuring X-rays emitted from pionic and muonic atoms created by the proton beam. Analysis of over 400,000 frames of CCD data is yielding improvement over the precision of the pion mass value by a factor of two over previous measurements. Accurate knowledge of the charged pion mass is important in providing direct confirmation of QED theory. Also, a more precise determination of the pion mass can be used to re-evaluate the mass of the muon neutrino mass, which features prominently in dark matter theory. This grant will allow completion of the data analysis towards production of a new, more precise determination of the charged pion mass.

£3,500 (supp) CLRC

**PHYSICS & ASTRONOMY,  
GYNAECOLOGY, MEDICAL PHYSICS**

**Dr A Keay, Dr J E Lees, Mr Q Davies, Dr M Y Early**  
**Investigation of Scintillator-Coated CCDs for Medical Imaging**

A Medical Research Council, Discipline Hopping Award has been won by members of the Space Research Centre. The award will enable us to investigate the use of solid state detectors, developed for x-ray astronomy, for applications in nuclear medicine. We will use x-ray sensitive CCDs to allow better detection and location of tumours, melanomas and other small lesions in the body. Such devices have superior spatial resolution and excellent energy resolution, and consequently have the potential to be a generic, low cost, high performance alternative to the ubiquitous Gamma Camera. Although we will be focusing the technology on breast and vulvar cancers, we envisage using mosaics of such detectors for imaging the thyroid and skeletal joints.

£49,094 MRC

**PHYSICS & ASTRONOMY WITH  
UNIVERSITY OF EDINBURGH**  
**Dr M Watson**

**Astrogrid Project Manager Support Grant**  
The AstroGrid project (<http://www.astrogrid.org>) is a consortium of seven UK universities and research facilities which aims at producing a working datagrid for

key selected databases, with associated datamining facilities, by late 2004. AstroGrid is part of the world-wide drive towards the concept of a Virtual Observatory (VO), and comprises the UK contribution to this vision. The PPARC funding awarded to the University of Leicester supports the AstroGrid project manager, based in Leicester, as well as providing the core project budget for AstroGrid team equipment and travel.

£269,343 PPARC

**PSYCHIATRY**

**Dr H Andrews**  
**Supplement – Information Support to Monitor the Impact of Changes in Service Development for People with Enduring Health Problems**

This supplementary grant enables us to continue to monitor the effect of the Asylum Closure programme in Leicestershire on adults with severe forms of mental illnesses who now receive their care in modern purpose designed settings, or with support from community teams. This monitoring project has been maintained over the past 10 years and is one of the largest and most detailed Impact and Evaluation Case Registers for this client group in the UK. The work to be undertaken with this grant will allow the direct care staff to input and review clinical information, through the formation of an Intranet for the entire set of services for this client group. This is the first of a planned series of transformations of the original Case Register design of the study into a real-time Information System for staff in the different agencies who contribute care to this client group, so that co-ordination and integration of clinical and research data is achieved.

£150,145 (supp) Leicestershire & Rutland Healthcare NHS Trust

**Prof J Lindesay**  
**Supplement – Research and Information Officer**

£102,208 (supp) Leicestershire & Rutland Healthcare NHS Trust

**Supplement – Psychiatry for the Elderly Research Funding**

£146,653 (supp) Leicestershire & Rutland Healthcare NHS Trust

**Ms V Tischler, Prof P Vostanis**  
**The Role of a Family Support Worker for Young Families**

This exploratory study aims to identify types of assistance which enable young families to live independently and prevent them from becoming homeless. The role of a new family support worker for this population is assessed. The worker is based within the Beaumont Leys Independent Support Service (BLISS) team which offers practical assistance and advice in order to promote independent living skills. The views of homeless and recently resettled families will be gathered using interviews and focus group discussions. The

results of the research will inform the development of the family support worker role.

*Value Reported in February/March 2002 Bulletin Supplement*

**Prof P Vostanis**  
**Supplement – Evaluation of CBIs**

£29,884 (supp) Department of Health via Leicester City Council

**RESPIRATORY MEDICINE**

**Dr P Bradding**  
**Supplement – Sputum Eosinophilia in Chronic Obstructive Pulmonary Disease and the Response to an Inhaled Corticosteroid, Mometasone Furoate**  
£12,861 (supp) Schering Plough Ltd

**Dr R Green, Prof A J Wardlaw**  
**Role of Novel Bacterial Pathogens in Intrinsic Asthma (Fellowship)**

Asthma is often related to allergies but many patients with asthma have no allergies. This is known as "intrinsic asthma." Some patients with this sort of asthma seem to have the type of inflammation in their airways that is usually seen in infections. This causes us to question whether this type of asthma may be linked with, or possibly caused by a previously unidentified infection. We can easily measure the inflammation in the airways using a simple sputum test and have developed a method for looking for new types of bacteria in the sputum. We plan to use these methods to see if we can find any new infections in the sputum of patients with asthma that are not seen in normal controls. This may eventually help us find the cause for this type of asthma.

£15,600 British Medical Association

**RESPIRATORY MEDICINE,  
EPIDEMIOLOGY & PUBLIC HEALTH**  
**Prof A Wardlaw, Prof Burton**  
**Supplement – The Genetic Epidemiology of Chronic Obstructive Pulmonary Disease**  
£1,016 (supp) PPP Healthcare

**SCARMAN CENTRE**  
**Mr J Garland, Mr N Chakraborti**  
**Minority Ethnic Communities' Perceptions of the Criminal Justice System in Suffolk**  
£8,489 Home Office

**SURGERY**

**Dr R James**  
**Treatment of HI – Evolving Evidence Based Treatment Strategies for Infantile Hyperinsulinism using Clinical, Genetic and Cell Biological Insights into a Heterogenous Disease – FP5 – CA**  
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## HANDEDNESS AND BRAIN ASYMMETRY: The Right Shift Theory

Marian Annett

Psychology Press, January 2002, £49.95 (hardback)

ISBN 1-84169-104-6

Available from the Bookshop

► **Brain asymmetry is moderately related to handedness but what are the rules?**

► **Are symmetries for hand and brain associated with characteristics such as intelligence, motor skill, spatial reasoning or skill at sports?**

In this follow up to the influential *Left, Right, Hand and Brain* (1985) Marian Annett draws on a working lifetime of research to help provide

answers to these crucial questions. Central to her argument is the Right Shift Theory – her original and innovative contribution to the field that seeks to explain the relationships between left and right-handedness and left and right-brain specialisation.

The theory proposes that handedness in humans and our non human primate relations depends on chance but that chance is weighted

towards right-handedness in most people by an agent of right-hemisphere disadvantage. It argues for the existence of a single gene for right shift (RS+) that evolved in humans to aid the growth of speech in the left hemisphere of the brain.

The Right Shift Theory has possible implications for a wide range of questions about human abilities and disabilities, including verbal and

non verbal intelligence, educational progress and dyslexia, spatial reasoning, sporting skills and mental illness. It continues to be at the cutting edge of research, solving problems and generating new avenues of investigation-most recently the surprising idea that a mutant RS+ gene might be involved in the causes of schizophrenia and autism.

Handedness and Brain Asymmetry will make fascinating reading for students and researchers in psychology and neurology, educationalists, and anyone with a keen interest in why people have different talents and weaknesses.

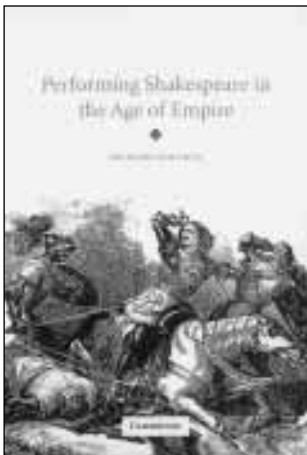
• *Dr Marian Annett is a University of Leicester Fellow in the Department of Psychology. She studied psychology at Bedford College and the Institute of Psychiatry in the University of London.* ☺

*'This is a milestone contribution. It pulls the field together around the Right Shift Theory and sets the course for future investigation.'*

TIM CROW, UNIVERSITY OF OXFORD

*'Few can afford to ignore Annett's theory... she has cast her stamp upon the field of handedness as no other investigator has done.'*

ALAN BEATON, UNIVERSITY OF SWANSEA



## PERFORMING SHAKESPEARE IN THE AGE OF EMPIRE

Richard Foulkes

Cambridge University Press, February 2002, £40 (hardback)

ISBN 0-521-63022-3

► **During the nineteenth century the performance of Shakespeare's plays contributed significantly to the creation of a sense of British nationhood and the extension of her influence overseas, not only in her own empire but also in North America and Europe. This was achieved through the enterprise of the commercial theatre rather than state subsidiary and institutions. Britain had no National Theatre, but Shakespeare's plays were performed up and down the land from the fashionable West End to the suburbs of the capital and the expanding industrial conurbations to the north. British actors also travelled the world to perform Shakespeare's plays, while foreign actors regarded success in London as the seal of approval.**

In this book Richard Foulkes explores the political and social uses of Shakespeare through the nine-

teenth and into the twentieth century, and the movement from the business of Shakespeare as an enterprise to that of enshrinement as a cultural icon.

With the prospect of the tercentenary of Shakespeare's death in 1916 the campaign for a Shakespeare Memorial National Theatre gathered pace. This was promoted as a benefit to the whole English-speaking world and the equal of the state theatres of Europe, but it fell victim to the outbreak of war, which coincided with a decline in traditional Shakespeare and exposed the nation's lack of any institutional stage.

The achievements of leading Shakespearian actors, managers and directors, not only from Britain (Macready, Phelps, Irving, Tree and Granville Barker), but also Europe (Saxe-Meiningen, Modjeska, Bernhardt, Salvini) and North America

(Forrest, Cushman, Aldridge and Booth), are set in the context of national and international events, alternative forms of patronage, and the forces of nationhood and imperialism, to reveal the intricate and fascinating story of the performance of Shakespeare's plays across the globe during this period of apparently limitless British ascendancy.

• *Dr Richard Foulkes is a Reader in the English Department. He has a specialist interest in the interpretation and performance of Shakespeare at the time, and has published several texts including The Oxford Companion to Shakespeare and Church and Stage in Victorian England (1997).*

• *The book's cover illustration is of Richard III at Astley's Amphitheatre (Illustrated London News, 6 September 1856) (reproduced by permission of the Harvard Theatre Collection).* ☺



## WOMEN AND LITERATURE IN BRITAIN 1800-1900

Edited by Professor Joanne Shattock  
Cambridge University Press, August 2001, £40 (hardback) £14.99 (paperback)  
ISBN 0-521-65957-4  
Available from the Bookshop

► **These new essays by leading scholars explore nineteenth-century women's writing across a spectrum of genres. The book's focus is on women's role in and access to literary culture in the broadest sense, as consumers and interpreters as well as practitioners of that culture.**

Individual chapters consider women as journalists, editors, translators, scholars, actresses, playwrights, auto biographers, biographers, writers for children and religious writers, as well as novelists and poets. The impact of women in

the literary marketplace, women's roles in public debate, the culture power of women readers, women writers' construction of gender and sexuality, and the formation of a female canon are central in a century which saw the emergence of a mass audience for literature.

This is a unique chronology which offers a woman-centred perspective on literary and historical events and there is a guide to further reading.

• *Joanne Shattock is Professor of Victorian Literature in the Department of English at this University*

and President of The British Association for Victorian Studies. She is also the author of *The Oxford Guide to British Women Writers* (1993), and has edited Vol IV (1800-1900) of *The Cambridge Bibliography of English Literature*, 3rd edition (1999). She is General Editor of the forthcoming *Pickering and Chatto edition of The Complete Works of Elizabeth Gaskell*.

• *The book's cover illustration is taken from a painting by Frederic Leighton (1830-96), The Maid with the Golden Hair.* ☪



## MUSEUMS, SOCIETY, INEQUALITY

Edited by Richard Sandell  
Routledge, January 2002, £17.99 (paperback)  
ISBN 0-415-26060-4  
Available from the Bookshop

► **This challenging and thought-provoking new work grew out of an international conference that was organised by the Department of Museum Studies in 2000. Many of the conference speakers have written chapters for the book which feature alongside newly-commissioned papers.**

Museums, Society, Inequality brings an international perspective to debates around the museum's social purpose and value. Though recent years have seen a growing interest in the museum's potential to engage with social issues, the book positions this as part of a broad shift in thinking about the role of culture, rather than a short term reaction to contemporary government policy.

The notion that the cultural and the social are inextricably linked and more particularly, that museums have the potential to act as agents of social change is neither new nor radical. The issues however, have in recent years become foregrounded and claims surrounding the museum's social agency have achieved a confidence and currency internationally that even the most entrenched and traditional have found difficult to ignore. Debates that have for many years been marginalised have moved centre stage and fundamental questions about the museum's social pur-

pose and responsibility, and in particular their potential to impact on the both the indicators and the causes of social inequality, are subject to increasing scrutiny and debate."

Museums, Society, Inequality explores the wide-ranging social roles and responsibilities of museums. It brings together diverse perspectives which collectively seek to stimulate critical debate, to inform the work of practitioners and policy makers and to advance recognition of the agency of museums; their purposes, responsibilities and value to society.

Over 20 contributors offer fresh insights into a diverse range of topics which are grouped into three main sections. The first offers different ways of understanding the social agency of the museum. Whilst there is some consensus, approaches are diverse reflecting differences in context and also different values and beliefs in relation to the social utility and purposes of cultural organisations. Each contributor presents ways of thinking about the impact, both positive and negative, that museums have on society and the lives of specific individuals and communities.

The second section presents ways in which museums have sought to engage with contemporary social concerns, to tackle specific manifes-

tations of inequality and to act, in partnership with other agencies and with communities, to instigate social change. They offer thought provoking and, indeed, challenging ways of thinking about museum's fundamental purposes.

The final section begins to imagine the character of inclusive museums and the processes that might be employed to enable them to become more relevant, effective and useful to society.

The contributors themselves – practitioners, academics and commentators – are also writing from diverse perspectives. Very often, access to debate, and specifically to publication, has been reserved for a narrow cohort of academics (a practice often based on spurious claims to authority and scholarship). The aims of this book, however, are to open up and to move forward debates about the social purpose of museums, to influence and inform practice and has therefore set out to provide a forum in which the theoretical and abstract, the practical and professional are brought together.

• *Richard Sandell is a Lecturer in the Department of Museum Studies at Leicester and Research Associate of RCMG (Research Centre for Museums and Galleries).* ☪



A video on the exhibition is also available. To read more about this exhibition, visit [www.illumin.co.uk](http://www.illumin.co.uk).

## IMAGE AND IDOL: Medieval Sculpture

Richard Deacon and Phillip Lindley  
Tate Publishing, October, 2001, £14.99 (paperback)  
ISBN 1-85437-400-1  
Available at the Bookshop

► **Image and Idol: Medieval Sculpture**, is an exhibition showing sculpture from the Romanesque period up to the Reformation, in the Duveen Galleries of Tate Britain from September 2001 to March 2002. It was curated by Phillip Lindley, who provided the intellectual and historical structure of the Exhibition and masterminded the selection of sculptures, with the eminent contemporary sculptor

Richard Deacon, who designed the superb installation, and Clarrie Wallis of the Tate. This exhibition is a major departure for Tate Britain, which until now has never exhibited art from before the Reformation.

In the exhibition catalogue, Dr Lindley argues that the Reformation was the greatest revolution in history of the arts in England and Wales. He provides a detailed account of the medieval use of figure-sculpture in

the Christian Church, and of hostility to such imagery. The destruction of religious imagery under Henry VIII and Edward VI is chronicled, as is the attempt by Mary to reintroduce such sculpture. The final phases of destruction under Elizabeth and in the Commonwealth period are also analysed. The last section of the catalogue analyses the two dozen sculptures on show, setting them in their historical context and demonstrating how they have been affected by Reformation iconoclasm.

- Dr Lindley is a Reader and Head of the Department of History of Art
- The illustration on the book's cover is a photo from Tate Photography: *Reclining figure of Jesse, late 15th century.*

*'This magnificent show... is art history at its most vital and arresting... Nothing made before 1540 has ever been shown at the Tate; and it is hard to remember any other art living up to the chill, inhospitable chasm of the Duveen galleries.'*

Laura Cummings, THE OBSERVER

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### ACCOMMODATION REQUIRED

Dr Nozomu Nishitani from Nagoya University, together with his wife and two children aged 4 and 5 years, is to undertake research in the Physics and Astronomy Department. He requires furnished, family accommodation from September 13 for approximately one month, before he returns to Japan. If you can help, contact Patricia Bland, Physics and Astronomy Department (3563, [pbland@ion.le.ac.uk](mailto:pbland@ion.le.ac.uk)).



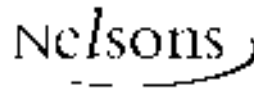
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