

The Academy of Medical Sciences Review

# FMedSci



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## Acknowledgements

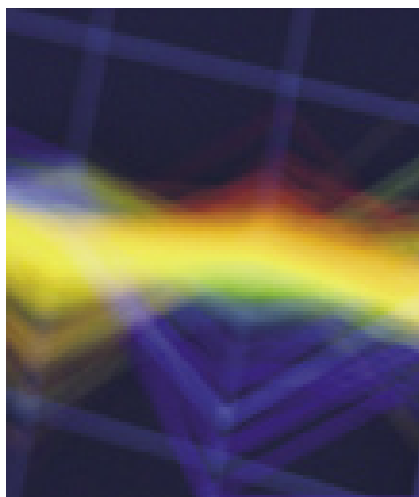
The Academy gratefully acknowledges the generosity of the many trusts, companies and individuals who support us in many ways. We are particularly indebted to the Welton Foundation and Wellcome Trust for major contributions to the Academy's new headquarters at 41 Portland Place. We would like to thank Wellcome Trust, the Daniel Turnberg Memorial Trust, the Foulkes Foundation, the Health Foundation, the Kohn Foundation, the Lister Institute of Preventive Medicine, the Medical Research Society, the Primary Immunodeficiency Association, the University Hospitals Association, GE Healthcare, GlaxoSmithKline, Roche and the Lancet for the support of our programmes.

We are most grateful for continued support from Government – the Chief Scientist Scotland, the Department of Health for England, the Department of Innovation, Universities and Skills, the Medical Research Council, the National Institute for Health Research and Sciencewise-ERC.

We are grateful for the ongoing support of the Jean Shanks Foundation and the Raymond and Beverly Sackler Foundation, whose endowments underpin our annual lecture programme.

We are also grateful for the generosity of the Academy Fellowship.

Pictures on page 23 by Elliott Manches. All other photography by Phil Sayer. Research pictures taken at MRC Centre for Developmental Neurobiology, King's College London. Design by RBDA, Oxford.



The Academy of Medical Sciences is the independent body in the UK representing the whole spectrum of medical science. Our mission is to ensure better healthcare through the rapid application of research to the practice of medicine.

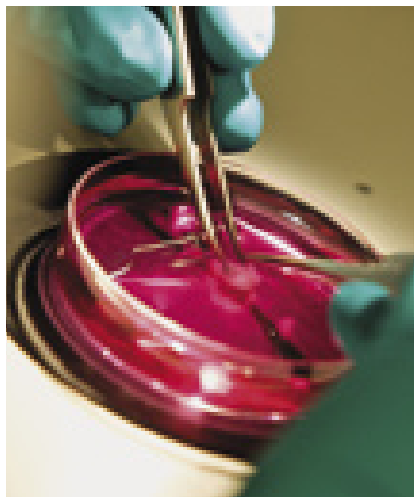
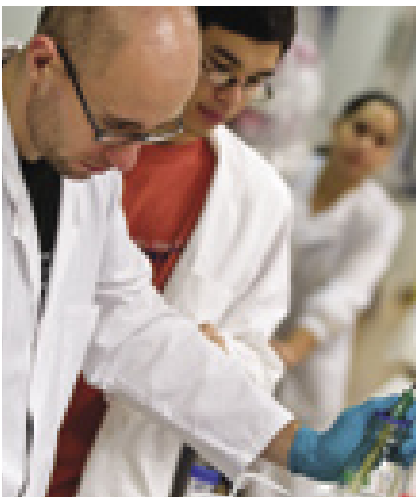
**We achieve this by:**

- Providing expert, evidence based information and advice on the latest developments in medical science.
- Supporting the development of a first class medical science workforce.
- Championing the UK's medical research strengths in academia, in the NHS and in the biotechnology and pharmaceutical industries.

Our elected Fellows are central to our success; it is their diversity of talent and expertise that enables the Academy to bring authoritative opinion and influence to complex issues of 21st Century medical science and healthcare.

**We are**

- An independent, national resource of excellence and expertise in medical science and healthcare.
- Networked to leaders and key influencers in medical science in the UK and abroad.
- Responsive, dynamic and innovative.



# Building on our success



Professor Sir John Bell  
FRS PMedSci, President  
Academy of Medical Sciences

## A message from the president

The past two years have been a time of change – both at the Academy and in the wider UK medical research environment. What is striking is the important role the Academy and our Fellows have played in shaping this environment: Lord Darzi’s ‘NHS Next Stage Review’, Sir John Tooke’s ‘Independent Inquiry into Modernising Medical Careers’, Professor Sally Davies’ ‘Best Research for Best Health’ and Sir Leszek Borysiewicz’s appointment at the Medical Research Council. At the risk of confusing my various hats, I should also mention the formation of OSCHR, the Office for the Strategic Coordination of Health Research, if only to emphasise its mission to promote translation of the UK’s excellence in biomedical and clinical research into real health and economic benefits – a goal that has long been championed by the Academy.

These various developments offer unprecedented opportunities for UK medical research, but there have also been challenges. Reforms in clinical training pathways have been disruptive, and there remains a need to ensure that our brightest doctors are attracted to, and supported in, careers in academic medicine. There have been complex debates around the regulation of medical research, including embryo and stem cell science, the use of experimental animals and research involving patient data. The Academy’s voice has been influential in all of these arenas, and we have strived to ensure that science can thrive within robust regulatory frameworks. Looking forward, we must continue our success in catalysing discussions across different sectors – academia, industry, patients, regulators, health professionals, the Government and others.

Changes in global financial markets mean it is more important than ever that the UK’s research assets are recognised and supported – our skilled scientists, our strengths across academia

and industry and the opportunities afforded by the NHS. The Academy’s programmes in biomedical careers, policy, and the FORUM with industry will mean we are uniquely placed to provide expert, authoritative advice to policymakers on key priorities, challenges and solutions.

We have gone a long way to meeting the objectives set out in our 2006-2010 Strategic Plan and I am particularly pleased that we have expanded our focus to include issues of global health. We welcome Professor Robert Souhami as the Academy’s first Foreign Secretary and look forward to an exciting international programme in 2009 and beyond.

Of course, none of this success would be possible without the dedication and skill of the Academy’s Fellows and staff. I have enjoyed fantastic support from the Council and Officers over the past two years. I particularly thank Sir John Skehel, who stood down as Vice-President in 2007, and Sir Ronald Laskey, who took



up this position. I warmly thank the excellent team at the Academy's head office – particularly our Executive Director, Mary Manning. Mary's retirement in 2009 will mark nine years at the Academy, during which time she has taken us to ever-higher levels of achievement. Mary leaves the Academy in outstanding shape; we are particularly indebted to her successful negotiation of the acquisition of 41 Portland Place, which will form the Academy's first dedicated headquarters. We have all been inspired by her vision and commitment and we wish her a long and happy retirement.

2008 marked the Academy's 10th Anniversary and our celebrations drew to a close with the election of three new Honorary Fellows including Professor Chen Zhu, Minister of Health, China. This election shows just how influential the Academy has become on an international stage and reminds me how much we have achieved in our short history. I warmly thank everyone who has contributed to our achievements and look forward to building on these successes in the years to come.



# Executive Director's report



In this review of the Academy's achievements during 2006-2008, we celebrate the Academy's role in leading the medical research community through a period of significant expansion and reform – a period which began with major increases in funding for medical and healthcare research through the Comprehensive Spending Review of 2007, and which has seen the implementation of new strategies to promote the translation of ideas and discoveries from laboratory to clinic.

The Academy is proud of its record of public service and nowhere is this more clearly demonstrated than through our published policy reports and statements. 'Inter-species embryos', 'Identifying the environmental causes of disease' and 'Brain science, addiction and drugs' provided a distinctive Academy voice. The recommendations from these reports continue to inform discussion throughout Whitehall and regular monitoring by the Academy office has shown that the Academy's views have a real impact and are highly respected by policy makers.

A key theme of this Review is the power of individuals to make a difference. This is reflected in our programmes for young biomedical researchers, the new funding schemes, our national mentoring programme, and regional activities designed to capture the interest of talented individuals and provide support for the development of their academic careers. Our annual lecture programme provides a platform for world-class biomedical scientists to talk about their research experiences and the inspiration that set them on course to major discoveries.

Medical research plays a vital part in the science base of this country. It promotes scientific discoveries, stimulates innovation and contributes to the future well being of society. Part of the Academy's original brief was to ensure that the remarkable progress being made in the life sciences and medicine was fully exploited by industry, academia and the health service.

The key vehicle for taking this forward is the Academy's FORUM with industry and, under the leadership of our President, Sir John Bell, we have created a programme that reflects the interests of the pharmaceutical industry, academe and national research bodies.

The Academy's resources are still modest and though the office has grown to a team of 17, from 11 in 2006, we continue to rely on the combined energy, commitment and resourcefulness of staff and Fellows in delivering our projects; a partnership that goes from strength to strength bringing much mutual respect and professional satisfaction. The Academy's expert Fellowship underpins our work and programmes and provides the intellectual inspiration and rigour so essential if we are to retain our influential role in the delivery of timely evidence and advice. By engendering a strong sense of collegiality we are able to ensure that our Fellowship is more than a collection of individuals.

In 2008 the Academy celebrated its 10th anniversary. The inaugural meeting of the Academy of Medical Sciences took place on 16 November 1998. There was, justifiably, much satisfaction amongst the founder Fellows at having successfully steered a course through the long period of discussion and negotiation to the establishment of an Academy of Medical Sciences for the UK. The words, *Medical Sciences*, are significant since it is this focus on biomedical science that has enabled the Academy to

develop a distinctive niche and provided a focus that has been at the heart of the Academy's success these past ten years. We have enjoyed the support of many generous donors during this period – institutional and individual. Their vote of confidence in our endeavours, supported by financial help, has set us on course to be an effective organisation and we are most grateful. In particular I should like to thank Wellcome Trust, the National Institute for Health Research, GlaxoSmithKline and the Health Foundation for their great generosity.

None of us could have foreseen that in 2008 the Academy would acquire its own headquarters. The acquisition of 41 Portland Place, the former home of the Novartis Foundation, represents a most generous gift on the part of the Foundation

Trustees and launches the Academy on a new chapter in its history. Plans for refurbishing the property are underway and our fundraising efforts received a wonderful boost this year with substantial donations from The Welton Foundation, in memory of Professor John Newsom-Davis FRS FMedSci, Founder Fellow of the Academy, and from The Wellcome Trust.

Ten years is a mere blink of the eye in the grand scheme of things but those of us who have been personally involved in this brief period of the Academy's history believe that the foundation of the Academy was timely and inspirational. It has remained true to the mission set for it by the Founder Fellows - to promote the translation of new knowledge and technologies into benefits for society.



**Mary Manning**  
**Executive Director**  
Academy of Medical Sciences

# Building our future: a new Academy headquarters

To have grown so fast and achieved so much in our first decade is due to the outstanding commitment of the Officers and Fellows of the Academy, the hard work of our staff, and the support of many good friends. We now stand on the cusp of an exciting new phase in the Academy's lifespan: we have acquired our own headquarters at 41 Portland Place, London - a building with a distinguished history as a centre of excellence in the medical sciences.

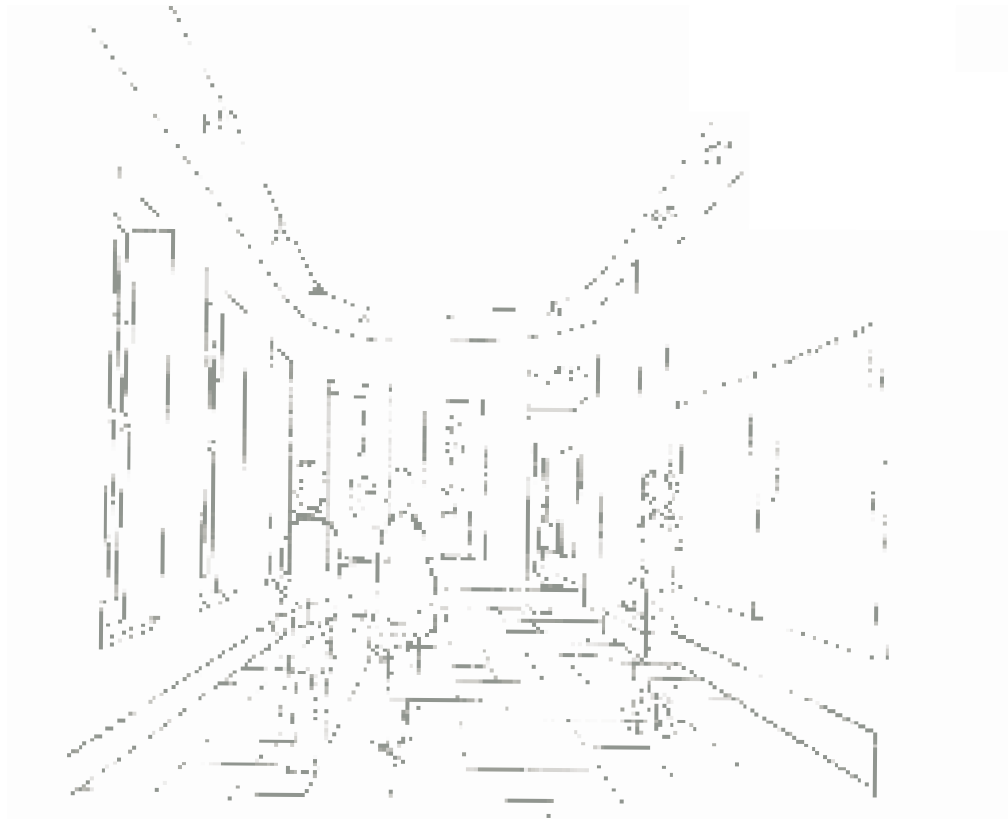
Our vision is to build on this history to create an independent, professional headquarters for the Academy in the heart of medical London that will provide an intellectual home for Fellows and a focal point for the UK's medical science community.

The new headquarters will be housed in two linked properties consisting of 41 Portland Place, a listed Grade II\* 18th Century town house, and 8 Weymouth Mews, built in the 20th Century, which together provide a total of 15,000 square feet of accommodation.

While the property has been kept in good order over the years, it is now in need of substantial refurbishment to create an ideal headquarters for the Academy that will endure for many years to come.

## Key elements include:

- Office accommodation for Academy staff with additional space for expansion.
- New conference suite for up to 50 delegates.
- Open plan exhibition area.
- Reception rooms that provide flexible spaces to accommodate Council meetings, lectures and formal dining.
- Private roof terrace.





### **Fundraising**

We aim to raise a total of £5million to cover all the costs associated with refurbishing 41 Portland Place. The Fundraising Committee leading the appeal is targeting a variety of sources, including the Fellowship, charitable trusts, companies and individual supporters.

We have already received a generous lead donation of £1million towards this target from The Welton Foundation in honour of their trustee, and one of the Academy's Founder Fellows Professor John Newsom-Davis CBE FRS FMedSci. We have also been awarded a conditional grant of £2.2million from the Wellcome Trust.



# 41 Portland Place, London

#### **Fundraising committee**

**Professor Sir John Bell FRS  
PMedSci, President (Chair)**

**Professor Ron Laskey FRS  
FMedSci, Vice-President**

**Professor Ian Lauder FMedSci,  
Treasurer**

**Professor John Connell FMedSci**

**Sir Colin Dollery FMedSci**

**Sir Charles George FMedSci**

**Professor Sir Malcolm Green  
FMedSci**

**Sir Alex Markham FMedSci**

**Sir Richard Sykes FRS FMedSci**

**Professor Mike Spyer FMedSci**

**Lord Turnberg of Cheadle FMedSci**

**Professor Roger Williams CBE FMedSci**

# Our Fellows

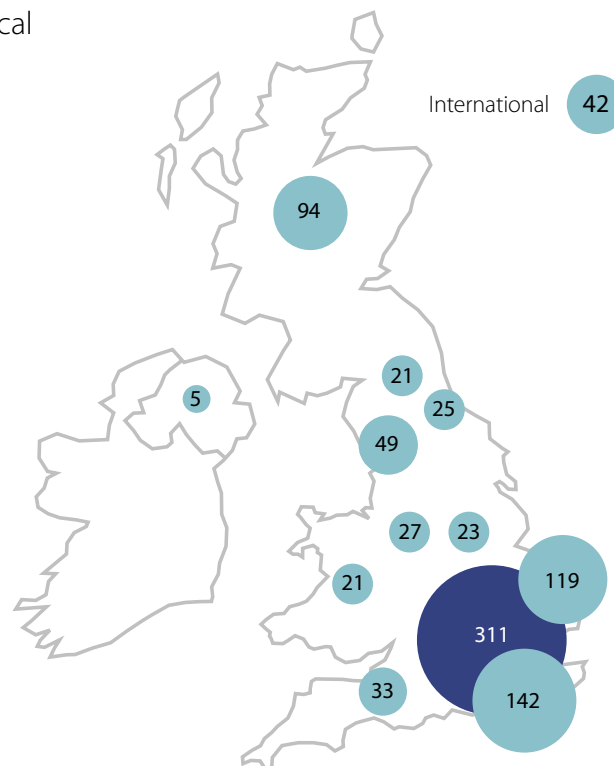
Our Fellows are central to all we do. The excellence of their science, their contribution to medicine and society and the range of their achievements are reflected throughout our work.

Fellows are drawn from clinical academic medicine, biomedical research, veterinary science, dentistry, medical and nursing care and other professions allied to health science including ethics, social science and the law.

Fellows are elected for their outstanding contribution to the advancement of medical science, for their application of existing scientific knowledge to innovative health interventions, or for their conspicuous service to medical science and healthcare.

## Strength through collegiality

We provide regular opportunities for our Fellows to come together, exchange ideas and share their knowledge. Our strategic communications programme ensures interaction and information flow between individuals and the Academy – Fellows are kept up to date with relevant Academy, national and international developments, and have the opportunity to share their concerns and priorities. By engendering a strong sense of collegiality we are able to ensure our Fellowship is more than a collection of individuals.



## Distribution of Academy Fellows across UK regions

Clinical Fellows 56%, Non-clinical Fellows 44%



### **New Fellows**

The rigorous and competitive process of election to the Academy ensures that FMedSci is a badge of distinction and prestige. Around 100 new nominations are received each year and over 300 candidates are under consideration at any one time. 80 new Fellows have been elected to the Academy in the past two years. These brief biographies of recently elected Fellows illustrate their diversity of talent.



**Professor Jeremy Farrar OBE FMedSci**, Medical doctor and researcher based in the Oxford Clinical Research Unit in Vietnam, investigating the avian influenza virus and other infectious disease threats.

**Professor Lesley Fallowfield FMedSci**, Director of the Cancer Research UK Psychosocial Oncology Group at the Brighton & Sussex Medical School, and long time advocate for better communication skills for health professionals.

**Professor Kent Woods FMedSci**, Chief Executive of the Medicines & Healthcare Products Regulatory Agency and expert in clinical pharmacology.



**Professor Barry Everitt FRS FMedSci**, pioneering researcher in the neuroscience of addiction at the University of Cambridge.

**Professor Peter Donnelly FRS FMedSci**, Director of the Wellcome Trust Centre for Human Genetics at the University of Oxford and leading proponent of genome-wide approaches to studying common diseases.

**Dr Tilli Tansey FMedSci**, Reader in the History of Modern Medical Science at University College London and author of books and articles on 20th Century Medicine.

# How we work

The Academy pursues an interdisciplinary approach to medical science, bringing together the biological, physical, engineering and social sciences to address opportunities for innovation and barriers to progress.

Our portfolio of working group reports, consultation responses and discussion papers has established the Academy as a unique resource for independent, expert advice on medical science policy and career development.

## Governance

The Academy is governed by a Council of 23 Fellows, including six Honorary Officers, who provide strategic advice and endorse all policy statements and recommendations before publication. As well as giving advice, Council members provide horizon-scanning insight and help to identify areas where the Academy can have most impact. From time to time external speakers are invited to attend Council meetings to stimulate discussion and to inspire new ideas and approaches; most recently our Council has discussed funding strategies with Dr Mark Walport FMedSci, Director of the Wellcome Trust, and the NHS next stage review with Lord Darzi FMedSci, Parliamentary Under Secretary of State at the Department of Health.

## Our Programmes

All our projects are overseen by a Fellow of the Academy. Projects may arise from recommendations from the Academy's Council or Fellowship, or in response to direct commissions and consultations from Government, Parliament and other relevant bodies.

Many of our projects are undertaken in collaboration with other UK and international bodies such as charities, research funders, or industry. We regularly work in partnership with Wellcome Trust, the Medical Research Council, Association of Medical Research Charities, the Medical Schools Council and other UK national academies.

**'The Academy's independent knowledge bank is a vital resource for Government; its role as an interface to expertise is critically important.'**

**Sir David King FRS**  
Former Chief Scientific Advisor  
to HM Government



## Honorary Officers

**Professor Sir John Bell**  
FRS PMedSci,  
Regius Professor of  
Medicine at Oxford  
University (President)

**Sir Michael Rutter**  
CBE FRS FBA  
FMedSci, Professor  
of Developmental  
Psychopathology,  
Institute of Psychiatry  
(Vice President)

**Professor Ronald  
Laskey FRS FMedSci,**  
Honorary Director  
MRC Cancer Cell  
Unit, University  
of Cambridge  
(Vice President from  
November 2007)

**Sir John Skehel**  
FRS FMedSci,  
Former Director of  
the National Institute  
for Medical Research  
(Vice President  
to November 2007)

**Professor Ian Lauder**  
FMedSci,  
Honorary Professor,  
Leicester University  
and the University of  
Warwick (Treasurer)



**Professor Patrick Maxwell FMedSci,**  
Head, Division of  
Medicine, University  
College London  
(Registrar)

**Professor Robert Souhami CBE FMedSci,**  
Former Director of  
Clinical Research  
and Training, CRUK  
(Foreign Secretary)

Our five-year strategic plan, published in 2006, set out clear goals for Academy activity and identified key areas for development. We have made rapid progress against this plan and celebrated many successes. We have built on our reputation as a champion for medical research, and established ourselves as a trusted policy advisor and supporter of medical careers. We have also taken bold steps into new arenas including global health and public engagement. The latter pages of this review focus on our key objectives, highlighting our achievements and sharing our success stories.

#### **Facilitating discussion**

Over the last two years our symposia, workshops and scientific lectures have continued to bring together leading figures in the medical science community with policymakers, patients, regulators, ethicists, social scientists and other sectors of society to progress discussions on important medical issues. Key contributors at our meetings and lectures have included Mr Andrew Witty, CEO GlaxoSmithKline, Professor Hans Rosling, Professor of International Health, Karolinska Institute, Sweden and Sir Leszek Borysiewicz, Chief Executive, Medical Research Council.

#### **Formulating advice**

During the period of this review our long-term policy studies have culminated in the production of 5 major working group reports and over 40 discussion papers, consultation responses and briefing documents. We have undertaken follow up work to ensure our advice has had a genuine impact on science and health policy. Our advice has been used to shape Government legislation on human embryo research, has guided how policymakers and journalists use evidence of the causes of disease and has steered the research strategies of major funders on drugs, mental health, toxicology and data research.

#### **Developing individuals**

We have supported the career development of hundreds of high calibre scientists - from graduates to senior academics - through our innovative mentoring and outreach programmes. Our funding schemes have enabled clinicians to pursue academic research projects alongside patient care. This area of activity continues to expand with two new schemes launched in the last year to provide start-up funds for clinical lecturers and to promote exchange of scientists between the UK and the Middle East.

#### **Providing a voice**

Using the wealth of knowledge within our Fellowship we have provided a unified voice for the medical science community to respond to issues as they emerge. The Academy has been a key presence during high profile discussions on Modernising Medical Careers and the Human Fertilisation and Embryology Bill. We have acted as a source of knowledge and expertise, a focus for collaboration amongst different sectors of the medical research community, and a route through which UK scientists can share their hopes and concerns.

# Recognising excellence

Promoting advances in medical science and ensuring these are translated into benefits for patients is the core goal of the Academy. Over the past two years we have continued to champion new knowledge and to promote the conversion of that knowledge into benefits for medical science and healthcare.

We have worked with a variety of organisations including Government, research funders, regulators, industry, healthcare professionals and patients to raise awareness about medical science issues, to set the agenda, to initiate and facilitate debate and to highlight novel issues.

## We are:

- A supporter of cutting edge science.
- A guardian of intellectual rigour.
- A facilitator of debate.

**‘The Academy makes sure politicians at national, local and European level know the important role biomedical research has in our knowledge economy.’**

Andrew Witty, CEO GlaxoSmithKline

## Celebrating medical science

The Academy’s celebrated public lecture programme has provided opportunities to highlight major scientific and public health issues. Our lectures have focussed on cutting edge research and provided a platform for discussion around the latest science.

### Raymond and Beverly Sacker Distinguished Lecture in the Medical Sciences

**2006: Calcium signalling in health and disease**

**Sir Michael J. Berridge FRS FMedSci**,  
Laboratory of Molecular Signalling, The Babraham Institute, Cambridge

**2007: Nuclear receptors: metabolic engineering and the dawn of synthetic physiology**

**Professor Ron Evans** of the Salk Institute for Biological Studies

**2008: Molecular mechanism of neuro-degeneration in Alzheimer’s disease**

**Professor Peter St George-Hyslop FRS**,  
University of Cambridge

### Jean Shanks Lecture

**2007: The dynamic organisation of cells in normal and disease states**

**Professor Tony Pawson FRS**, Samuel Lunenfeld Research Institute, Mt. Sinai Hospital, Toronto

**2008: RNA silencing; lessons from plants**

**Professor David Baulcombe FRS**,  
Professor of Botany, Royal Society Research Professor, Department of Plant Sciences, University of Cambridge.



**Being elected an Honorary Fellow is not only important for me as a medical doctor and researcher, but it will promote bilateral cooperation among health professionals in China and the UK.**

Professor Chen Zhu FMedSci, Minister of Health, China

### **Outstanding individuals**

Awarded bi-ennially, the Foulkes Foundation Medal is intended to recognise an outstanding individual for their excellence in biomedical science and to inspire others to pursue a career in biomedical research. The first Foulkes Foundation Medal was awarded in November 2007 to Professor Robin Ali FMedSci, Professor of Molecular Genetics, Institute of Ophthalmology, University College London.



### **Honorary Fellowship**

As well as recognising excellence and achievement in research, we also celebrate the outstanding achievements of those who have transformed the environment in which healthcare is provided and who have played a pivotal role in inspiring the next generation of talented individuals to enter the field.

Honorary Fellowship of the Academy is offered to those of the highest distinction in the field of medical science. During the period of this review the Academy elected immunologist Dr Thomas Waldman, Nobel Laureate Sir Martin Evans, Lord Sainsbury of Turville, Former Minister for Science and Innovation in the Department of Trade and Industry and Professor Chen Zhu, Minister of Health, China as Honorary Fellows in recognition of their significant impact on the field of Medical Science.

# Impacting on medical science policy

Our medical science policy programme continues to address a diverse range of topics broadly divided into two categories: public policy issues *involving* medical science and policy issues *affecting* medical science. We have taken a flexible approach, responding to changing circumstances and priorities to provide the most significant and effective information and advice. We have ensured that our policy work is appropriately reflective of the UK as a whole and is well informed by developments across Europe and worldwide.

## We are:

- **A champion for new knowledge.**
- **A resource of expertise and excellence in science.**
- **A trusted advisor.**

## Influence and impact

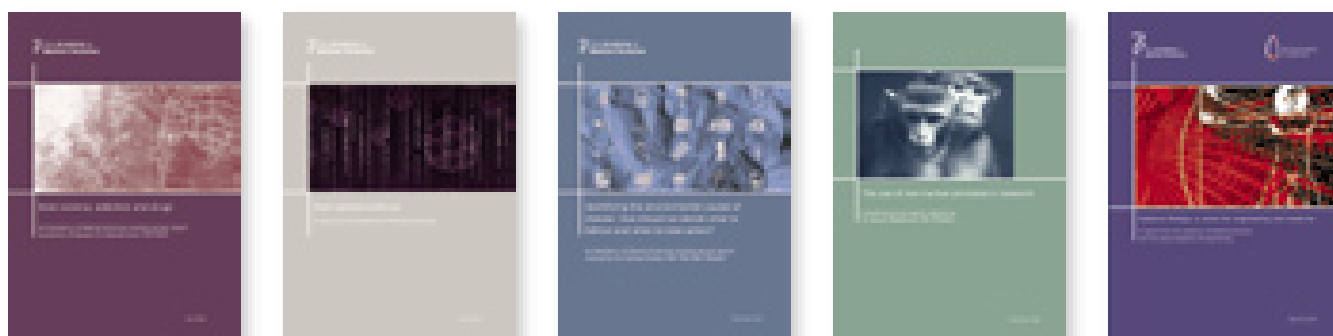
Our major policy reports have focussed on cutting edge and sometimes controversial issues of medical science.

The '**Inter-species embryos**' report, chaired by Professor Martin Bobrow CBE FRS FMedSci, was instrumental in influencing the Government's decision to support research on human admixed embryos and has been an invaluable source of information during debates on the Human Fertilisation and Embryology Bill. This report was the first on the topic anywhere in the world and has been studied by bodies in the US, Singapore, Australia and Denmark.

## 'Identifying the environmental causes of disease'

chaired by Sir Michael Rutter CBE FRS FBA FMedSci, was widely welcomed for its important analysis of the strengths and limitations of epidemiological evidence. The guidelines outlined in the report have been taken up by several Government departments and regulatory agencies as well as by journalists.

Government has also indicated its acceptance of the major recommendation of Sir David Weatherall's report on '**The use of non-human primates in research**' to develop 'a national strategy for non-human primates in science'. The Weatherall report will continue to be an influential source of information during ongoing discussions about the future of primate research in the US and Europe.





**‘Brain science, addiction and drugs’**, chaired by Professor Sir Gabriel Horn FRS, was a £500,000 commission from Government and was our largest project to date. It involved a working group of nine experts and a national public engagement programme that drew in over 400 participants. The report has been widely welcomed by key stakeholders in the Government and beyond as an authoritative and useful resource for developing future policies around drugs and addiction. The Medical Research Council’s new Addiction Strategy explicitly invites research proposals that address recommendations in the report.

The Academy’s **‘Systems biology’** report, chaired by Sir Colin Dollery FMedSci and Professor Richard Kitney FEng, produced with the Royal Academy of Engineering and funded by the BBSRC, addressed a new and ground-breaking scientific approach, bringing together developments in biological sciences, systems engineering, imaging, mathematics and computing – a truly multidisciplinary report. The report galvanised significant interest and investment in the field, not only in the UK, but also notably in Germany.

### Future focus

We will continue to address a diverse range of topics including:

- Animals in research.
- Research on ageing and lifelong well-being.
- General Practice and medical research.
- Human enhancement.
- Molecular medicine.
- Genetics and disease.

### Policy symposia and workshops

We have hosted a large number of policy events and workshops designed to air complex problems in medical science and healthcare, to debate solutions and to make recommendations. Topics addressed have included pandemic influenza, complementary and alternative medicines, ageing research, evaluation of medical research impacts, embryo research, and the benefits and harms of new medicines.

### Ongoing advice to Government and other stakeholders

We are a trusted advisor to Government and other stakeholders and we continue to provide briefings and responses on a number of issues, either alone or in partnership with other organisations. During the period of this review our submitted responses have included:

- House of Commons Health Committee Inquiry into the Electronic Patient Record.
- Use of Science in the Home Office.
- House of Commons Health Committee Inquiry into NICE.
- MHRA challenges and priorities for the next 5 years.
- Innovation, Universities and Skills Select Committee Inquiry into Biosecurity in UK Research Laboratories.
- House of Lords Science and Technology Committee inquiry into ‘Genomic Medicine’.

We have also continued to identify and remove barriers to the progress of medical science and to facilitate the rapid translation of research from laboratory bench to hospital bedside. We have strived to ensure research environments and infrastructures are academically strong, well-resourced and internationally competitive. We continue to be involved in debates around:

- The use of patient information in research.
- Research involving human and human admixed embryos.
- Clinical trials and research involving human participants.
- The use of human tissue in research.
- Research and patients with mental incapacity.
- The use of animals in research.
- Testing new medicines and new therapeutic treatments.



**‘The Academy provides an invaluable resource for independent advice on matters of medical and health science policy!’**

Lord Darzi of Denham FMedSci,  
Parliamentary Under Secretary of State  
at the Department of Health

# Developing the leaders of tomorrow

**'The Academy's programme of regional mentoring and outreach activities is a valuable resource for aspiring clinical academics.'**

**Sir John Tooke FMedSci,**  
Dean, Peninsula Medical School

The Academy's impact on the development of training and career pathways for aspiring medical researchers has been significant, both in terms of policy outcomes and provision of direct support for trainees.

We have played a central role in developing sustainable training programmes and career pathways able to attract the most promising biomedical scientists and clinicians to academic medicine.

## **We are:**

- **An authoritative voice on the development of academic training and careers.**
- **Working to ensure the UK generates the next generation of leading global medical researchers.**
- **A source of support for aspiring medical researchers.**

## **Influence and impact**

Our advice has assisted the UK medical community navigate through a period of change and uncertainty in clinical and academic training.

We were heavily involved in discussions surrounding the Modernising Medical Careers (MMC) inquiries, particularly the report 'Aspiring to Excellence' produced by Professor Sir John Tooke FMedSci and the House of Commons Select Committee Inquiry into MMC. We produced guidelines on reviewing clinical academic training and progress for Specialty Registrars undertaking joint clinical and academic programmes. These guidelines have been formally supported by the Postgraduate Medical Education and Training Board (PMETB).

Authoritative reports on 'Careers for biomedical scientists and clinicians in industry' and UK MB PhD programmes have been published, in addition to a follow-up symposium to our earlier 'Freedom to Succeed' report. This symposium brought together the community to monitor and assess changes to UK support and training structures for non-clinical scientists.



### **Mentoring the leaders of tomorrow**

Our acclaimed mentoring programme links Academy Fellows with early career stage clinical scientists to assist their personal and professional development. Workshops have taken place in Oxford, Newcastle, London, Coventry, Taunton, York, Cambridge and Liverpool with speakers from Government, funding bodies and industry including Professor Sally Davies FMedSci, Department of Health and Professor Patrick Vallance FMedSci, GlaxoSmithKline.

### **Inspiration across the UK**

Our Visiting lecture programme provides opportunities for Academy Fellows to give inspirational keynote lectures to medical students. The scheme was successfully piloted at Peninsula Medical School in 2007 and has since been expanded to Cardiff University, Dundee University, Hull York Medical School, Leeds University, Queens University Belfast and University of East Anglia.

The Academy has also launched a Clinical Research Champions scheme designed to bring young doctors and Academy Fellows together from across the UK to share personal experiences about careers in medical science. Champions include Professor Moira Whyte FMedSci, University of Sheffield and Professor Fiona Karet FMedSci, University of Cambridge.

### **Funding first class research**

The Academy's funding schemes focus on areas of specific and specialist need. We have targeted our efforts to address shortages within key specialty areas, international collaboration and career development for clinician scientists.

### **Clinician Scientist Fellowships**

The Academy and The Health Foundation have worked in partnership for the past seven years to deliver the prestigious Clinician Scientist Fellowship Scheme. Five new Fellowships were awarded in Summer 2008 to exceptional scientists pursuing research in anaesthesia, neurology, surgery and hepatology. The new awards, worth £3.2 million, represent the third cohort of Clinician Scientists Fellows to be supported by this scheme.

### **'Starter Grants' for Clinical Lecturers**

This £5million grant scheme was developed in collaboration with the Wellcome Trust and launched in 2008. The scheme aims to provide modest 'start up' funds to enable research active Clinical Lecturers to pursue their research work, gather preliminary data and so further strengthen their applications for longer-term fellowships and funding. The scheme will produce a new generation of researchers with the skills to ensure patients benefit from the latest breakthroughs in medical science. It will operate for a period of four years and will support up to 200 clinical academics during this time.

### **UK/Middle East Exchange Fellowships**

In partnership with The Daniel Turnberg Trust, a new international exchange scheme was launched in 2008. The scheme is designed to encourage collaboration between medical researchers in the UK and the Middle East. Short-term fellowships provide early and mid-career clinical academics and biomedical scientists with the opportunity to gain additional research experience, learn new techniques and develop scientific collaborations.

### **Future focus**

We will continue to address a diverse range of topics including:

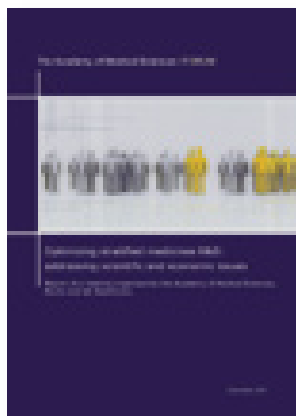
- The continued development of the clinical academic training pathway.
- The role of teaching in academic careers.
- Clinical academic capacity and the allocation of resources across academic specialties.
- Evaluating the joint clinical academic appraisal (Annual Review of Competence Progression).

# Linking academia and industry

The Academy's FORUM with industry brings together biomedical scientists from academia and industry, and provides a place for debate on key issues at the industry-academe interface. Through the FORUM we have raised awareness of new technologies and provided expert analysis on the development and safety testing of new medicines.

## We are:

- **An impartial link to the bioscience industry.**
- **Committed to interdisciplinary working.**
- **Operating at the interface of research and development.**



## Influence and impact

Modern medicine requires a multi-disciplinary approach – both in research and in the formation of public policy. The Academy's FORUM offers an independent resource with the expertise and authority to lead in national discussions on scientific opportunities at the interface between 'research' and 'development'.

Our FORUM symposia have explored the targeting of medicines to defined groups of patients - so called 'stratified medicines' - by bringing together representatives from industry, health economists and medical academics from the UK and abroad for an intensive residential workshop. The meeting led to the publication of '**Optimising stratified medicines R&D: addressing scientific and economic issues**'.

The first wave of large scale 'Genome wide association studies' (GWAS) have improved understanding of the genetic basis of many complex traits. A FORUM symposium on this exciting topic reviewed emerging data and explored the impact on understanding of disease pathways, facilitating drug discovery, and clinical practice and patient stratification.

Symposia on drug discovery in both Manchester and London were useful events for early career stage scientists and clinicians to interact with biotechnology and pharmaceutical companies around the processes of pharmaceutical development. We will be taking similar symposia to other regions of the UK over the next two years.



### Vision and strategy

A new Steering Committee for the FORUM was established in 2008, under the Chairmanship of Academy President John Bell FRS FMedSci. Members of the Committee include Fellows Professor Patrick Vallance FMedSci, Senior Vice President Drug Discovery, GlaxoSmithKline R&D, Dr John Patterson FMedSci, Executive Director, Development, AstraZeneca Pharmaceuticals and Professor Jeff Almond FMedSci, Vice President, Discovery Research and External R&D, Sanofi Pasteur, as well as senior representatives from the major research funders and other international bioscience companies.



### FORUM Annual Lecture

Our FORUM Annual Lecture has provided opportunities for FORUM members, Academy Fellows and other stakeholders to hear from international leaders in biomedical science.



**2008: The UK pharmaceutical industry: what does the future hold?**

**Andrew Witty**, CEO, GlaxoSmithKline

**2007: The highs and lows of academic/industrial collaborations**

**Professor Dame Nancy Rothwell** FRS FMedSci, University of Manchester

### Future focus

FORUM activities will focus on:

- Innovation in the UK biotechnology sector.
- Pharmaco-vigilance and signal detection in drug databases.
- Benefits and harms of new medicines.

# Improving global health

Our strategic plan published in 2006 included, for the first time, a goal to 'contribute to developments in global health'. This represented an expansion in focus for the Academy and a recognition that the expertise of our Fellows should play a role in alleviating the burden of disease in developing countries. We also recognise that many of the UK's health policy concerns need to take account of the international context and can only be addressed on an international scale. With this in mind the Academy Council appointed Professor Robert Souhami CBE FMedSci as the Academy's first Foreign Secretary in Autumn 2008.

## We are:

- An organisation with global reach.
- A voice for UK medical science in the international arena.
- A platform for bringing expertise to bear on global health problems.

## Influence and impact

Our Fellows represent a wealth of experience in global health, and have international links and collaborations with over 55 countries around the world.

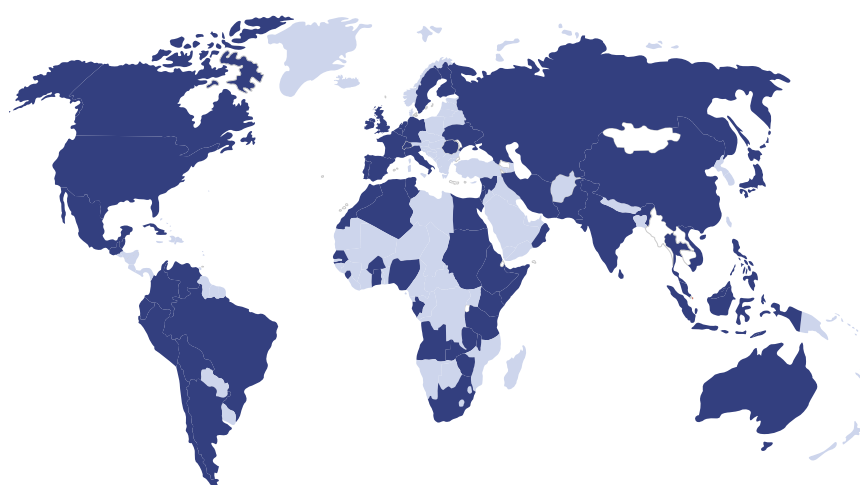
Current Academy activity in this area is focused on the topics of infectious disease, the socio-economic benefits of health research and global health diagnostics.

In 2008 the Academy's first global health report was launched.


'**Challenges and priorities for global mental health research in low- and middle-income countries**' successfully highlighted the strategies required to translate research in this area into policy and practice.

## International collaboration

Through our projects, symposia and policy activities we are working with a range of international organisations and initiatives, including the African Science Academy Development Initiative, the Academy of Sciences for the Developing World, the European Academies Science Advisory Council, the European Federation of Pharmaceutical Industries and Associations, the Royal Netherlands Academy of Arts and Sciences, the Bill and Melinda Gates Foundation, the US Institute of Medicine, the World Health Organization and the Federation of European Academies of Medicine.



■ Global links of Academy Fellows

A photograph of Sir Liam Donaldson, Chief Medical Officer, speaking at a podium. He is wearing a white shirt and a dark tie, and has his hands raised in a gesture while speaking. The background is a plain, light-colored wall.

**‘The Academy can draw attention to areas of science that have the potential to solve health problems, to provide robust challenges and constructive criticism.’**

Sir Liam Donaldson FMedSci,  
Chief Medical Officer

#### **International Health Lecture**

Now in its sixth year, our international health lecture provides a platform for UK audiences to engage with internationally renowned speakers. The lecture programme highlights major scientific and public health concerns on global health and promotes debate, discussion and the exchange of ideas on current research in health and international development.

#### **2008: A fact based world view**

**Professor Hans Rosling**,  
Professor of International Health, Karolinska Institute, Sweden

#### **2007: Halving premature death**

**Sir Richard Peto FRS FMedSci**,  
Professor of Medical Statistics and Epidemiology, University of Oxford

#### **2006: Challenges and opportunities in global health**

**Dr Tadataka Yamada FMedSci**, President, Global Health Programme, Bill and Melinda Gates Foundation

#### **Future focus**

Our work in global health will continue to address a diverse range of topics including:

- Non-communicable diseases.
- Global health diagnostics.
- Emerging infections.
- Capacity strengthening in medical science careers in global contexts.

# Engaging the public

A crucial component in the future success of medical research is the confidence of the general public in the aims and practices of medical science. With this in mind the Academy Council established a communications group, chaired by Professor Fran Balkwill OBE FMedSci, to ensure effective and appropriate communications, and promote a positive communications culture through our activities.

## We are:

- Committed to providing public platforms for our Fellows.
- A valued source of comment on medical science in the media.
- Pledged to engage the public and listen to their views.



## Shaping our advice

We aim to include a public engagement element in our projects where appropriate to ensure our advice is shaped by both the expert opinions of our Fellowship and the hopes and concerns of the wider society.

*drugsfutures*, undertaken as part of our 'Brain science, addiction and drugs' report and funded by Sciencewise-ERC, was the Academy's first major piece of public engagement work. It consisted of a series of workshops around the country in which over 400 members of the public were asked to share their thoughts on the future of drugs in society. The results were fed into the discussions and recommendations of our expert working group. An independent evaluation praised the success of the programme and concluded it could 'be seen as making a significant contribution to the future of public and stakeholder engagement on issues of public policy'.

This Government-commissioned project positioned the Academy at the forefront of developments in the public engagement field. It has become the benchmark by which future science policy projects are set in terms of their connection to members of the public.

## Working with the media

There is a strong culture amongst the Academy Fellowship of engaging with the media. Their expertise and experience is of significant value to journalists. Print, broadcast and online media play an important and helpful role in extending the Academy's communications with stakeholders, patients and the wider public.

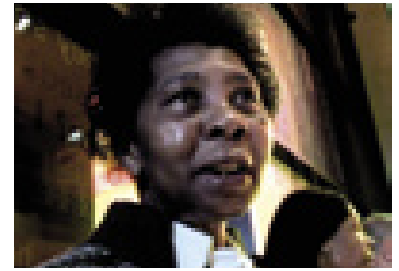
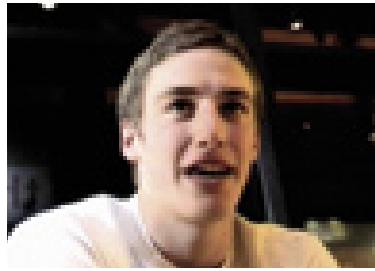
Our press activities target a broad spectrum of media to ensure we reach a variety of public audiences. Our projects have been covered in scientific journals including the British Medical Journal, Nature, Science and the Lancet as well as the daily broadsheets, tabloids and online news media. We have also worked with the broadcast media to ensure our projects have increased public impact through radio and television.

## Media Highlights

Our report '**Brain science, addiction and drugs**' was covered as a feature item on the BBC Radio 4 Today programme and used as a discussion point on several daytime radio phone-in shows. It also featured on the Channel 4 lunchtime news and the BBC's Politics Show.

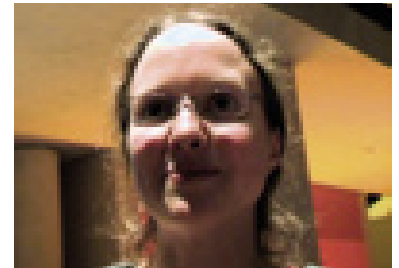
In partnership with the other national academies and learned societies, we briefed journalists on the Human Fertilisation and Embryology Bill as it progressed through Parliament to ensure coverage was accurately informed, particularly as the story moved from scientific to political news.





### Accessible publications

We have increased our publications output to include discrete non-specialist summaries of our policy projects that take the reports' findings to wider audiences. These summary reports are designed to be read within five minutes and are written to be relevant and accessible to the general public; they have proved extremely popular and have received praise from both Sense About Science and the Science Media Centre.

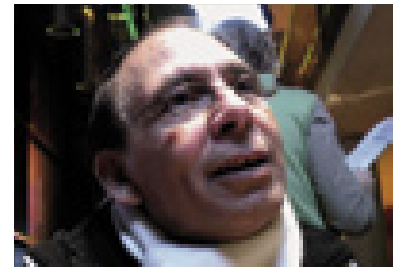
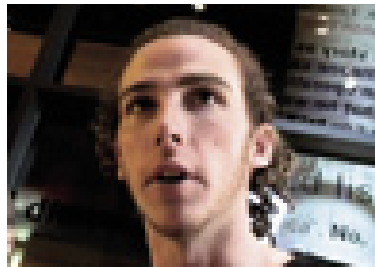
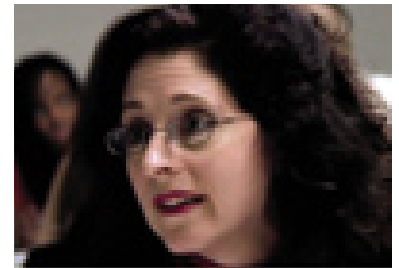


### Talks for the public

We have provided a platform for Academy Fellows to share the value and excitement of their research with members of the public and our Fellows have given talks at major science events and festivals

**Sir David Weatherall FRS FMedSci** and **Professor Raymond Tallis FMedSci** were panel members at the 'best of the fest' event at the Cheltenham Science Festival

**Professor Neil Ferguson OBE FMedSci** gave the Charles Lyell Award Lecture, 'Atishoo, Atishoo, we all fall down': predicting and controlling epidemics at the British Association for the Advancement of Science's Annual Festival in Liverpool.



**'When controversial medical discoveries hit the media it is vital scientists engage in the debate. The Academy brokers relationships between its Fellows and journalists ensuring timely access to independent, expert advice.'**

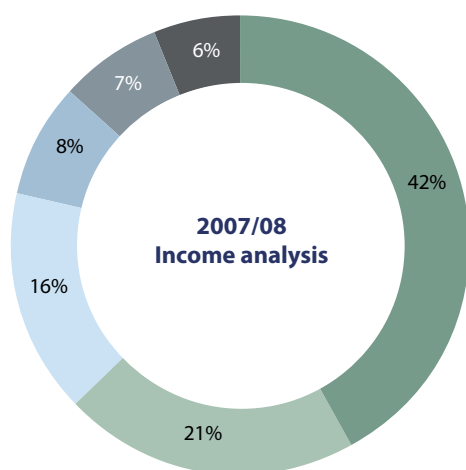
Fiona Fox, Director, Science Media Centre

### Future focus

We will continue to:

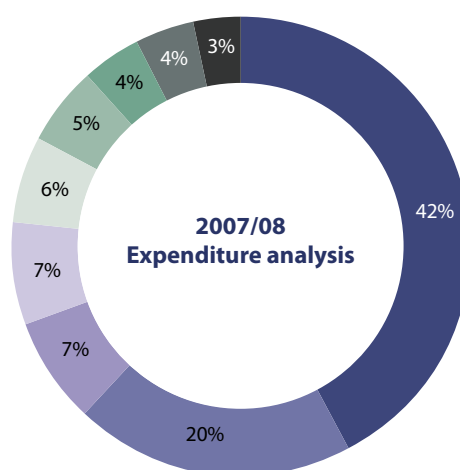
- Work proactively with journalists to ensure the Academy's voice is present in media debates.
- Increase the accessibility of our publications.
- Ensure our advice is shaped by the expert opinions of Fellows and the hopes and concerns of the wider society.

# Financial information



Fellowship grants	£899,197
Government grant	£450,000
Project funding	£334,207
Academy's Fellows	£176,636
Industry	£151,015
Bank interest	£129,560

**Total income** £2,140,615



Research Fellowship	£913,905
Medical science policy	£429,559
Relocation project costs	£158,550
Education and training	£158,255
Academy activities	£130,409
Medical science & industry	£117,564
Governance costs	£94,438
Costs of generating funds	£85,913
Public engagement	£70,902

**Total expenditure** £2,159,495

## Statement of reserves

At 31 March 2008 total reserves were £1.99 million with £589,000 in the General Fund; £452,000 in the Relocation Fund; £745,000 in various restricted funds and £200,000 as permanent endowment.

The reserves policy, regularly reviewed by the Finance Committee and approved by Council, requires that a minimum of 6 months' expenditure on core programmes be retained in the General Fund. Any excess above the target can be transferred to the Designated Relocation Fund if appropriate. This Fund is held to ringfence the costs associated with the planned relocation to 41 Portland Place from the delivery of the Academy's core activities. Other balances held in the restricted and permanent endowment funds are not for the general purposes of the Academy but are held on the specific direction of the donors.

**Full audited accounts area available at <http://www.acmedsci.ac.uk>**

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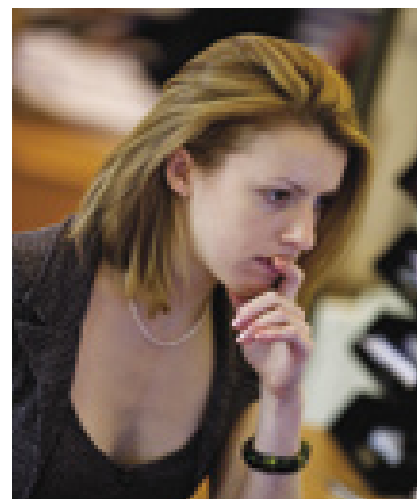
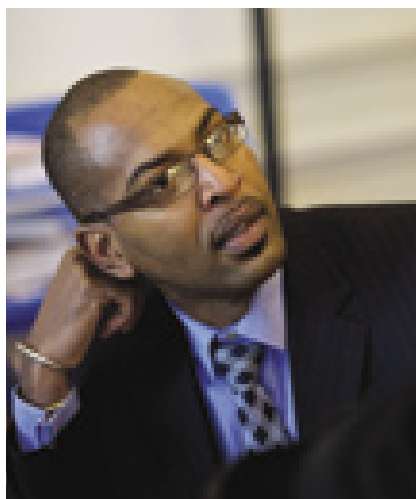
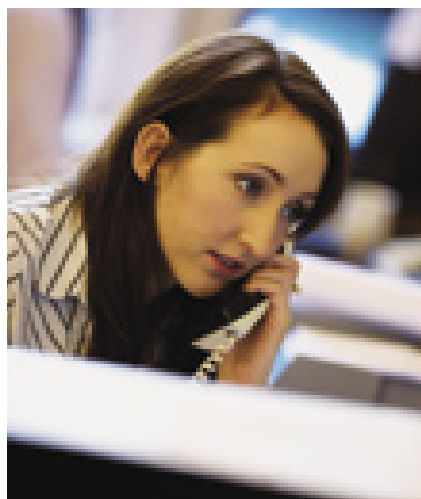
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