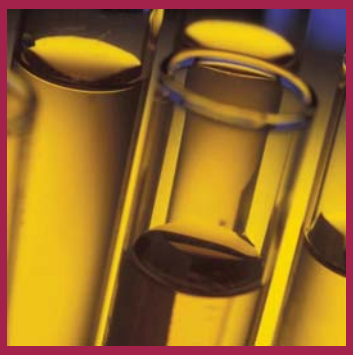
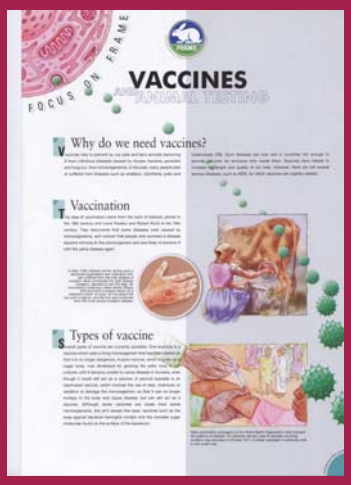
Fund for the Replacement of Animals in Medical Experiments

Annual Report and Review 2007–2008



THE KENNEL CLUB
Making a difference for dogs



Significant FRAME Achievements 2007–2008

- Launch at a House of Lords reception of a new initiative entitled *Putting Replacement First*, to re-emphasise FRAME's commitment to the replacement of animal experimentation.
- Re-opening by the Rt Hon. Ed Balls MP of the extended and refurbished FRAME Alternatives Laboratory at the University of Nottingham Medical School. The refurbishment has resulted in a spacious, modern laboratory, well-equipped to bring the techniques of molecular and cell biology to bear on the problems of devising alternative methods to replace animal experimentation.
- Completion of the Defra/Liverpool John Moores/FRAME project, and the publication of eight integrated testing strategies for toxicity testing under the REACH system, the new EU policy on chemicals.
- Organisation of a highly successful EU COST Training School on Experimental Design and Statistical Analysis.
- Organisation of an international workshop to address the need for alternative methods for assessing inhalation toxicity.
- Launch of a new feasibility study on the replacement of dogs in research and testing, partly funded by the Kennel Club.
- A prominent FRAME presence at the *6th World Congress on Alternatives and Animal Use in the Life Sciences* (21–25 August 2007, Tokyo, Japan). FRAME staff contributed fifteen oral and poster presentations, in addition to the opening lecture given by Professor Michael Balls.
- Launch of a new education initiative, and the production of a *Focus on FRAME* educational leaflet on *Vaccines and Animal Testing*.

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Development Activities

Reception at the House of Lords

Next year will be the fiftieth anniversary of the publication of *The Principles of Humane Experimental Technique* by William Russell and Rex Burch, in which they introduced the concept of the Three Rs — *Reduction*, *Refinement* and *Replacement*. Of these, *Replacement* has always been judged to be the most important, but the most difficult to achieve. On 14 June 2007, at a reception held at the House of Lords, hosted by FRAME's Patron, Lord Soulsby of Swaffham Prior, FRAME re-emphasised the primacy of *Replacement* by launching a new initiative entitled *Putting Replacement First*.

Dr Henry Stemplewski (toxicologist and member of the FRAME measuring reduction working group), Dr Nirmala Bhogal (FRAME) & Dr Andy Bennett (Director of the FRAME Alternatives Laboratory)

Ms Nicky Gordon (Dr Hadwen Trust), Dr Barry Phillips (RSPCA) & Dr Susan Trigwell (FRAME)

For nearly 40 years, FRAME has played a key role in the application of the Three Rs in toxicology and safety testing. However, such testing only accounts for approximately 20% of animal use. Therefore, FRAME has decided to increase its focus on the use of non-animal procedures in pharmacology and fundamental research, where the greatest number of animals are currently used.

Central to FRAME's efforts to address the *Replacement* of the use of animals in fundamental research, will be the active encouragement of the development and use of modern and advanced methods in cell and molecular biology, cell and tissue culture, computational modelling, and ethical clinical studies and epidemiology. To facilitate this, FRAME has contributed to the enlargement and re-equipping of the FRAME Alternatives Laboratory (FAL) in the School of Biomedical Sciences at the University of Nottingham Medical School. The refurbished laboratory was formally opened by Ed Balls MP, Secretary of State for Children, Schools and Families, on 6 July 2007, in a ceremony with many invited guests. The FAL, once heavily involved in the development and validation of replacement methods for toxicity testing, is now more focused on the development and application of human cell and tissue-based approaches applicable to both drug development and fundamental research. Working in close collaboration with clinicians, Dr Andrew Bennett, Director of the FAL, can obtain tissue samples from surgical procedures, with the required ethical consent. It is hoped that human cell lines, derived from such tissue samples, will be fully characterised and then distributed for use by the wider research community.

A workshop, organised by FRAME, on *In Vitro Models of Inhalation Toxicity and Disease* was held in Cambridge on 27–29 June 2007, when an international group of scientists, from both academia and industry, discussed strategies for developing, validating and gaining the regulatory acceptance of *in vitro* models of inhalation

Refurbished FAL Laboratory

toxicology. The results of a FRAME-associated project being undertaken in a laboratory in France informed this discussion. A report of the workshop will appear in *ATLA* before the end of 2008.

The implicit requirement for more animal testing to satisfy the new EU chemicals testing legislation (the REACH system) was the catalyst for a joint initiative of FRAME, the Department for the Environment, Food and Rural Affairs (Defra) and Liverpool John Moores University. The aim of the project was to develop integrated testing strategies for each toxicological endpoint covered by this new law. These have now been published and circulated for discussion to various stakeholders. A second Defra-funded project that focuses on two particularly important toxicological endpoints is now under way.

Work continues on looking at ways of phasing out the use of non-human primates, and examining the relative merits of animal models and *in vitro* models. Working with representatives from major pharmaceutical companies, FRAME has identified ways of refining and reducing the use of dogs in toxicity testing, and has assisted with the development of a shared database. More recently, FRAME has secured funding from the Kennel Club to support a project with the aim of identifying whether the use of dogs in all areas of research could be reduced and eventually eliminated.

FRAME has several new projects, facilitated by the recruitment of three scientists with expertise in biotechnology, contract testing and the development of new therapeutics. The central theme of these projects is the consideration of the development of therapeutics and medical devices, with a view to identifying the translation of information from fundamental research to the development of replacement methods. These activities complement the activities of the FAL, and are consistent with the aim to establish a Replacement Steering Committee in 2008.

FRAME's external activities have included the joint organisation, with Manchester University, of a training school in the experimental design and statistical analysis of biomedical experiments. FRAME was successful in obtaining funding for the training school from the EU Fund for Co-operation in the field of Scientific and Technical Research (COST), and it attracted 45 participants from many European countries. This training school was one of the activities being undertaken by three Working Groups, overseen by the FRAME Reduction Steering Committee. FRAME also continues to work closely with the Focus on Alternatives group of charities. During the year, 30 FRAME and FRAME-funded scientific research articles were published in the scientific literature. In addition, FRAME staff and trustees have presented research

Prof. Michael Balls taking part in the ceremony of breaking open barrels of sake, at the 6th World Congress in Tokyo.

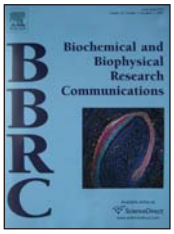
at a number of prestigious international meetings, including the 6th World Congress on Alternatives and Animal Use in the Life Sciences (Tokyo, Japan) and the Korean Toxicological Society Meeting (Seoul, South Korea).

The All-Party Parliamentary FRAME Group has continued to work with the Charity to increase awareness at Westminster of important issues concerning animal testing and alternatives.

The Ninth FRAME Annual Lecture

The Third Bill Annett Lecture was given on 24 October 2007, at the Kennel Club, London, by Dr Vicky Robinson, Chief Executive of the NC3Rs.

Publications
1 April 2007–31 March 2008



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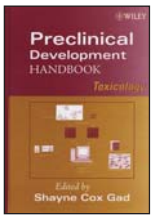

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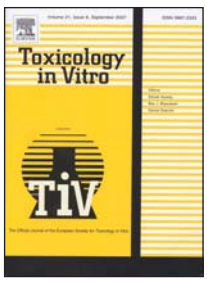

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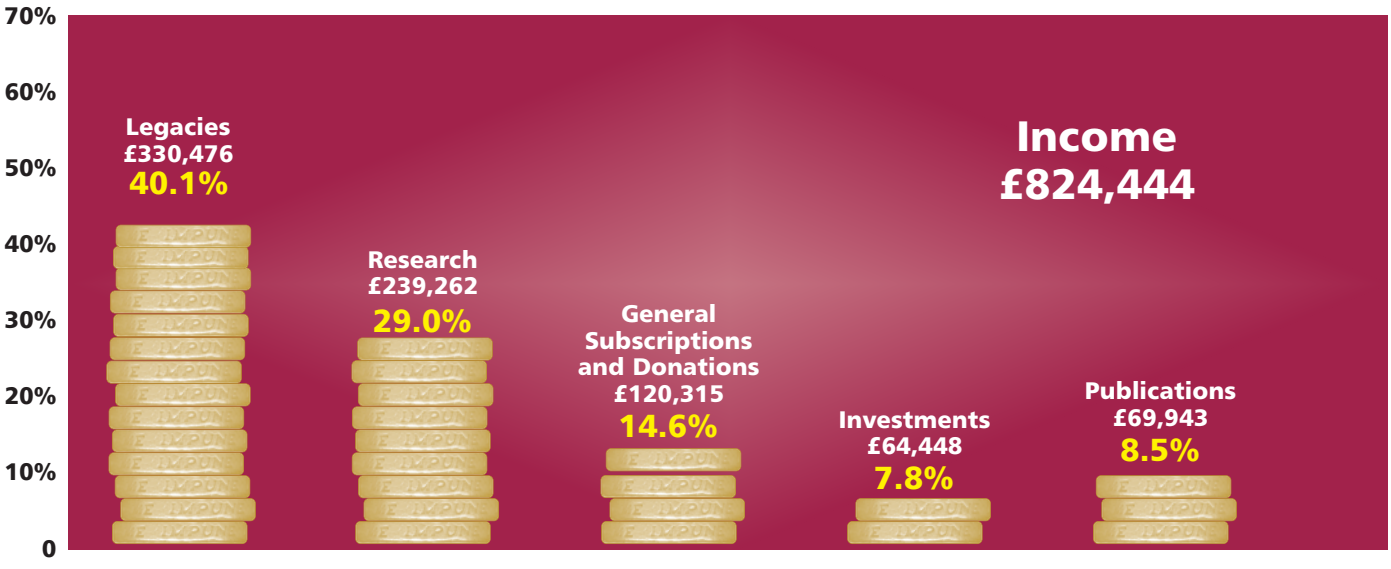
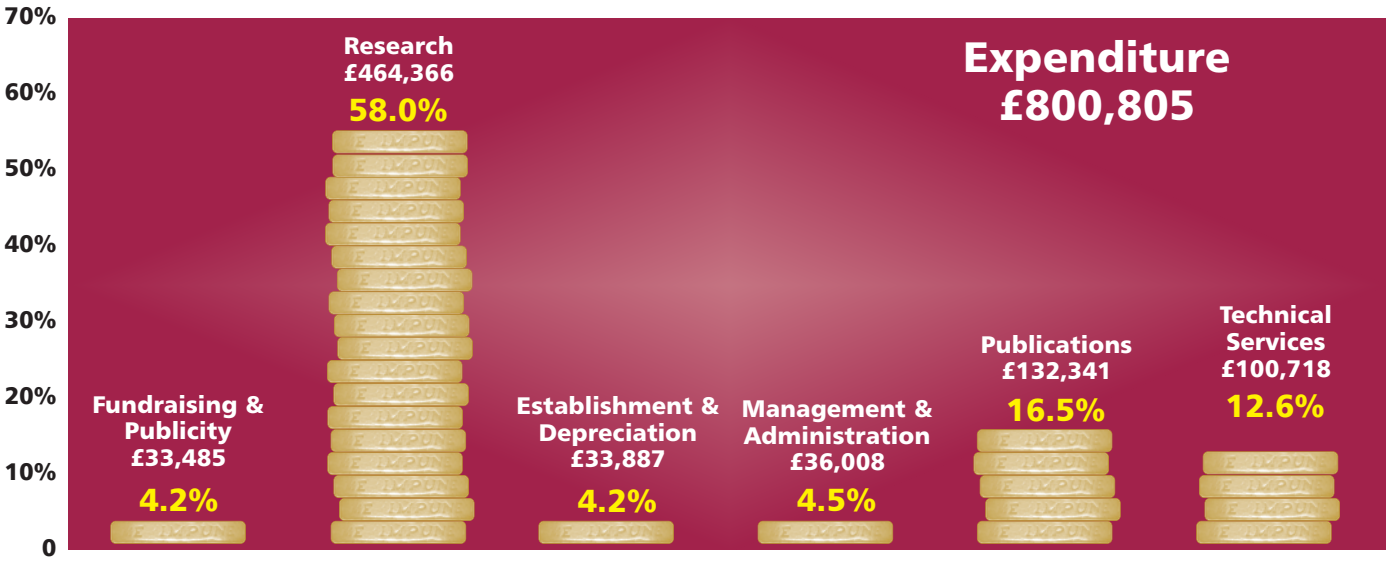
Financial Review
1 April 2007–31 March 2008

FRAME maintained a high level of financial support to further the aims of the charity by allocating 87% of its overall expenditure to research projects, technical support services, and scientific and educational publications. Almost £700,000 was spent in these three major activities out of a total expenditure of £801,000. A major item of expenditure during the year was financial support for the modernisation and expansion of the FRAME Alternatives Laboratory in the School of Biomedical Sciences, University of Nottingham Medical School. FRAME was delighted to be able to provide matched funding for this excellent refurbished research facility, which was formally opened on 6 July 2007. Management, administration and governance costs were kept at a very low level of 4.5% (£36,000) of the total expenditure for the year.

Funding for FRAME's Research Programme is reliant on donations, and these saw a rise of 15% over the previous year. It is important to obtain sufficient and regular income from larger corporate supporters to fund core research activities at the FRAME Alternatives Laboratory in the University of Nottingham. Trustees are in constant communication with current and potential new donors to encourage the support of the alternatives research programme.

FRAME's corporate membership scheme, aimed at smaller industrial supporters, remains a useful source of income and there was a small increase





Financial Review
1 April 2007–31 March 2008

in revenue over the previous year. It is hoped that, by continued encouragement, more companies will wish to support the aims of FRAME.

FRAME has managed to support its research programme to a level greater than research donations allowed, due to income from legacies. This year, £330,000 was received from legacies compared with £370,000 in the previous year. Trends in legacy income are notoriously difficult to predict. Current indications appear positive, but long-term research programmes cannot be planned on the basis of receiving legacy income at a certain level in a given year.

ATLA (Alternatives to Laboratory Animals), is the journal published by FRAME which provides an important conduit for ideas and publications of scientific research into alternatives to the use of animals in experimentation. The production of the journal involved a high level of activity, with the standard publication of six issues per annum. Costs of publishing the journal are maintained by subscriptions, special donations and financial support from FRAME funds.

Throughout the year, FRAME provided technical and scientific advice, usually free of charge, to government and non-government organisations. The technical department created educational and information leaflets on specific and current issues, and published and presented papers in their areas of expertise at national and international conferences.

To maintain financial security for the charity, FRAME has, in the past, invested some of its donations and legacies, and it maintains a broad-based investment portfolio, which is reviewed quarterly. By the year-end, there was a steep fall of £119,000 in the overall value of investments. This, in conjunction with the modest £24,000 surplus of income over expenditure, resulted in a balance sheet decrease of £95,000, bringing the total to £1.6 million. FRAME aims to protect the capital of its endowed funds, but it draws on investment income generated from them, to bridge the gap between income and expenditure in any year when there is a deficit of income over expenditure, in order to maintain its commitment to research into alternative testing.

FRAME's investment policy protects the financial assets of the charity, by means of a prudent and cautious approach to the choice of investment portfolio, which is designed to meet the future needs of the charity in the short, medium and long-term, in terms of both capital and income.

Ed Balls MP Opening the Refurbished FAL Laboratory

Donations and Legacies
1 April 2007–31 March 2008

FRAME Corporate Membership

1. Five-star members

★★★★★

These are companies which donated an annual sum of £20,000 or more. These companies may collaborate with FRAME in specific or general research projects, or contribute to the general funding of FRAME.

British American Tobacco

Imperial Tobacco

2. Three-star members

★★★

These are companies which donated an annual sum of £10,000 to £20,000. These companies may collaborate with FRAME in specific or general research projects, or contribute to the general funding of FRAME.

Asda Stores Ltd

AstraZeneca UK Ltd

Avon Products Inc.

The Boots Company plc.

Kimberly Clark Ltd

Procter & Gamble UK Ltd

Reckitt Benckiser plc.

J Sainsbury plc.

Shell International Ltd

Tesco Stores Ltd

Unilever

3. Two-star members

★★

These are companies which donated an annual sum of £5,000 to £10,000, either for a defined purpose or for general funding.

Coty UK Ltd

The Kennel Club

Marks & Spencer plc

Nude Skincare

4. One-star members

★

These are companies which donated an annual sum of £1,000 to £5,000, either for a defined purpose or for general funding. Such donations are of particular value in providing money for activities such as education and publicity, which do not involve research.

British Association for Chemicals Specialities
Charles River Laboratories
Church & Dwight UK Ltd
Colgate–Palmolive (UK) Ltd
A & E Connock (Perfumery & Cosmetics) Ltd
Covance Laboratories Ltd
PZ Cussons (UK) Ltd
Ecover (UK) Ltd
Firmenich UK Ltd
GE Healthcare Ltd
Givaudan UK Ltd
GlaxoSmithKline Ltd
Huntingdon Life Sciences Ltd
Johnson & Johnson Ltd
SC Johnson Ltd
Mercona (GB) Ltd
Next plc.
Rohm & Haas France S.A.S.
SafePharm Laboratories Ltd
Sanofi–Aventis
Sequani Ltd
Shire Pharmaceuticals Ltd
Smith & Nephew Research Ltd
Thor Group Ltd
Waitrose Ltd
Virgin Vie At Home Ltd

Donations from Trusts

FRAME gratefully acknowledges the support of the following Trusts, from which a total of £41,380 was received during the year:

Sylvia Aitken Charitable Trust
Basil Brown Charitable Trust
The Buckingham Trust
The Marjorie Coote Animal Charities Trust
The Jane Hodge Foundation
The Innominate Trust
Sir Charles Jessel Charitable Trust
The Kennel Club Charitable Trust
The Rufford Maurice Laing Foundation
William and Katherine Longman Charitable Trust
The Miller Foundation
Sylvanus Charitable Trust
The Toye Charitable Trust
The Uxbridge Charitable Trust
Walker 597 Trust
The Barbara Welby Trust
Mr & Mrs O J Whitley Charitable Trust
The D M & J Wood Deposit Trust

Legacies Bequeathed to FRAME

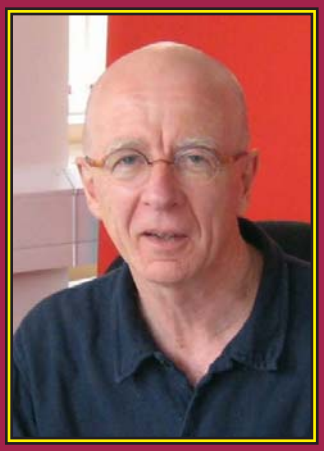
Legacy Income during the year totalled £330,476. FRAME received bequests from the following supporters:

Miss Evelyn M Amery, of Mansfield
Mr John M N Ankers, of Seaham
Miss Jessie E Baldock, of Colwyn Bay
Miss Marjorie E Bird, of Exeter
Miss Dawn D Bottrill, of Delabole
Mrs Dorothy B Davies, of Liverpool
Mrs Mina I A Dyer-Fane, of Worthing
Miss Patricia Gifford, of Richmond
Ms Joan Gilbert, of Southport
Miss Margaretha V M Haissig, of Hook
Mr Robert H S Hatton, of Babbacombe
Mrs Poppy A I Kaller, of King's Lynn
Miss Jean D F Kerr, of Crowborough
Mr Geoffrey MacMahon, of Hornchurch
Mr John Maloy, of West Clandon
Mrs Margaret M Moore, of Victoria BC, Canada
Miss Joyce F L Noel-Cox, of Poole
Miss Joyce C Nunn, of Bury St Edmunds
Miss Helen C Osler, of London
Mrs Bessie A De Pascali, of Swanley
Miss Pritchard (via Charities Aid Foundation)
Mr Norman H Rice, of Hinckley
Mrs Beatrice Rossiter, of Bath
Miss Gwenneth W Shollick, of Dorchester
Mr Peter Warwick, of Lyndhurst
Mr Thomas C G Whitehead, of Middlesbrough

FRAME Office Staff

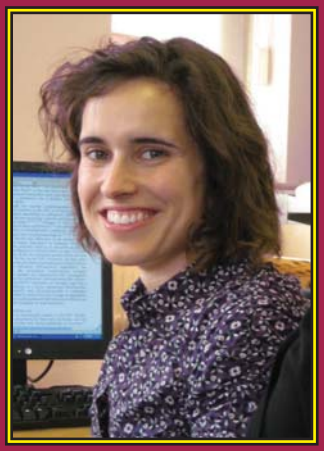
Scientific and Publications

Nirmala Bhogal (Science Director) has a first degree in Biochemistry and Pharmacology, and a PhD in Biochemistry and Molecular Biology from Leeds University, where she specialised in rational drug design and protein chemistry. Her current research interests include, the use of human volunteers, the application of biotechnology in alternatives research, and the discovery, development and delivery of therapeutics.



Trevor Gard (Publications Officer) has a PhD in Biochemistry from the University of London. He has worked extensively in the field of Clinical Biochemistry within academia, and has also worked in a number of biotechnology companies. More recently, he retrained as a teacher, and has taught in a number of local secondary schools. Trevor is currently forging links between FRAME and the educational sector, to have the issues of animal experimentation debated within schools. He is also involved in the production of a range of FRAME educational and publicity media.

Michelle Hudson (Scientific Officer) graduated from the University of Sheffield with a masters degree in Zoology. Her main research interests are the application of methods to reduce the number of animals used in experiments and the replacement of non-human primates in biomedical science. Michelle is currently undertaking a PhD project at the Institute for Science and Society, University of Nottingham, investigating the use of non-human primates in biomedical research.



After graduating with a BSc in Biology from the University of Glamorgan, South Wales, *Rita Seabra* (Scientific Officer) moved to the University of Nottingham (School of Pharmacy) to undertake a PhD project on the immune modulatory properties of *Pseudomonas aeruginosa*. As a post-doctoral scientist, she worked on the wound healing properties of the maggot of the greenbottle fly, *Lucilia sericata*. Her research interests here at FRAME include systems biology, medical devices, and genetically-altered animals.

Susan Trigwell (Managing Editor) has a PhD in Biochemistry from the University of Nottingham. She has worked on a range of academic research projects involving the application of molecular biology, immunology, and protein biochemistry techniques, and has also worked on the development of a number of *in vitro* assays. After successful completion of training courses run by the *Society for Editors and Proofreaders*, Susan decided on a career-change, and is now working as the *ATLA* Production Editor at FRAME, as well as being involved in the publication of FRAME publicity and educational media.

After gaining a PhD in Biochemistry from Liverpool University, *Dave Vowles* has operated in the arena of pharmaceutical research and development as a scientist and as a departmental manager. Working in pre-clinical and clinical areas, together with chemical registration, he brings a wide perspective to his present dual role of Administration Manager and Scientific Officer.

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