

**The Lister Institute of
Preventive Medicine**

Report of the Governing Body 1990

Brockley Hill
Stanmore
Middlesex HA7 4JD



The Governing Body

Professor G S Dawes, CBE, DM, FRCP, FRS, *Chairman*

D C Hobson, MA, FCA, *Hon Treasurer*

Professor H J Evans, PhD, FRSE

C E Guinness, CVO

The Rt Hon the Earl of Iveagh

Dr Anne L McLaren, MA, DPhil, FRCOG, FRS

Professor D K Peters, MB, BCh, FRCP

Professor Sir Mark Richmond, PhD, ScD, FRCPath, FRS

Dr A Robertson, CBE, PhD

G T Sammons, MA

Sir James Gowans, CBE, FRCP, FRS, resigned on 24 November 1989.

Secretary, and Clerk to the Governors G J Roderick, BCom

Solicitors:

Macfarlanes

10 Norwich Street

London EC4A 1BD

Auditors:

Coopers & Lybrand Deloitte

Plumtree Court

London EC4A 4HT

Registered Charity No. 206271

Scientific Advisory Committee

Dr Anne L McLaren, MA, DPhil, FRCOG, FRS, *Chairman*
(appointed 1 January 1990)

Dr M J Crumpton, PhD, FRS

Professor H J Evans, PhD, FRSE

Professor S Gordon, MB, ChB

Professor P J Lachmann, ScD, FRCP, FRS

Professor K Murray, PhD, FRS (appointed 12 June 1989)

Professor Anne E Warner, PhD, FRS

Sir James Gowans, CBE, FRCP, FRS, who was Chairman of the Scientific Advisory Committee as at 1 January 1989, resigned on 24 November 1989.

Professor A D Smith, MA, DPhil, retired on 12 June 1989.

The Lister Institute of Preventive Medicine

Annual General Meeting
5th June 1990

Report of the Governing Body

Governing Body and Scientific Advisory Committee

There has been one change in the composition of the Governing Body during the past year. Towards the end of 1989 Sir James Gowans was appointed the first Secretary General of the Human Frontier Science Programme, centred in Strasbourg, and it was with regret that the Governors accepted his resignation from the Governing Body and from the Chairmanship of the Scientific Advisory Committee. We wish Sir James well in his new appointment.

It is with great pleasure that we announce the appointment of Dr Anne L McLaren, Director of the MRC Mammalian Development Unit, as Chairman of the Scientific Advisory Committee to succeed Sir James. Dr McLaren is a well-known and highly respected Member of the Institute. She served on the Scientific Advisory Committee from its inception in November 1981 until her retirement by rotation in 1987. Anne McLaren is the Royal Society's representative on the Institute's Governing Body.

In addition to Dr McLaren's election to the Chair of the Scientific Advisory Committee there has been one other change. Professor A D Smith has retired by rotation and he has been replaced by Professor Kenneth Murray, PhD, FRS, Professor of Molecular Biology, University of Edinburgh.

Institute Membership

The Governing Body was pleased to approve of the election of Dame Olga Uvarov, formerly a representative of the Royal College of Veterinary Surgeons, to Membership of the Institute in her own right, and they were also pleased to approve the Members' recommendation that Miss Barbara A Prideaux, formerly Assistant Secretary to the Institute, be elected a member.

The Governing Body also confirmed the election of Professor John P Arbuthnott, MRIA, PhD, ScD, FIBiol, Professor of Microbiology at the University Hospital, Nottingham, as the representative of the Royal Irish Academy in place of Dr Thomas Murphy, who has retired.

The Governors are pleased to announce that Professor W T J Morgan, CBE, FRS, will celebrate his 90th birthday on 5th October 1990. Walter Morgan joined the staff of the Institute as a Grocers' Company Research Student on 1st September 1925 and he has been a loyal and devoted member of the staff, a conscientious Member of the Institute and a popular friend for a total of 65 years. He was elected a Fellow of the Royal Society in 1949 and awarded the CBE in 1959. Whilst Deputy Director of the Institute, he was a Professor of Biochemistry of the University of London between 1951 and 1968, when he retired. He returned as Director for the period 1972 to 1975, which was a crucial period in the history of the Institute. Walter Morgan was Vice-President of The Royal Society from 1961 to 1964 and was awarded The Royal Society Royal Medal in 1968. He has won several other prizes and medals and has been awarded many other distinctions. Walter's connections with the Institute are as close as they ever were. He has attended every Fellowship Weekend, and he has not been known to miss an Annual General Meeting. The Governing Body offer their warmest congratulations to Professor Morgan on his forthcoming birthday.

It is with great pleasure too that we congratulate Dr Winifred Watkins, FRS, a Member of the Institute and former member of the staff. Winifred has received the degree of Doctor of Science *honoris causa* from the University of Utrecht, Holland, and has achieved the distinction of being elected an Honorary Fellow of the Royal College of Physicians, London. This is the highest award that the College can give to a non-medical scientist.

Institute's Centenary

The Institute's Centenary falls on 25th July 1991, and the Governing Body intends to mark the occasion by the publication of a 4-page Special Report in *The Times*. Several other proposals are being considered and will be announced as and when appropriate.

Research Fellowship Scheme

The Governors are pleased to report

- that they have extended the research fellowship of Dr Claude M Wischik, University of Cambridge, for three years from 1st October 1989, to enable him to continue with his research and at the same time to undertake clinical training on a part-time basis to prepare for membership of the Royal College of Psychiatrists,
- that Professor Alec Jeffreys of the University of Leicester has been awarded the Leicester Publicity Association Achievement of the Year, 1989, and has also been elected Fellow of the Forensic Science Society of India,

– that Dr Andrew J King of the University Laboratory of Physiology, Oxford, has been elected to the 1990 Wellcome Prize Lectureship,

– that Dr Simon Kroll of the University Department of Paediatrics, John Radcliffe Hospital, Oxford, has been appointed Lecturer in the Department of Paediatrics, with honorary consultant status and a full official fellowship of Corpus Christi College, Oxford. He remains a non-stipendiary Fellow of the Institute until 30th September 1991.

The Governors congratulate Dr Graham J Boulnois of the University of Leicester on his promotion to a personal Chair as from 1st October 1989, and Dr Ann Burchell of the Department of Medicine, Ninewells Hospital, Dundee, who was elected a Fellow of the Institute on 1st October 1989, on her promotion to Senior Lecturer.

Dr Dennis R Burton, University of Sheffield, had already been granted a year's sabbatical leave from June 1989 to enable him to work at the Scripps Research Institute in La Jolla, California, in a number of areas of research in which he has a particular interest. His fellowship was due to end on 30th September 1990, but the Governing Body has extended his sabbatical leave for a year and his fellowship for a total of two years up to 30th September 1992.

Dr Steve Yeaman of the University of Newcastle upon Tyne, completed his five year fellowship on 30th September 1989. There are now 23 Fellows and 12 former Fellows.

The Fellowship Weekend at Fitzwilliam College, Cambridge in September 1989 was probably one of the most successful weekend meetings held so far. The next meeting will be held on 7th and 8th September 1990 at Christ Church, Oxford, and we return to Fitzwilliam College in September 1991.

The Governing Body frequently considers the terms and conditions of the Institute's post-doctoral research fellowships with a view to effecting improvements and to ensuring that the fellowships remain at a high standard. During this year we have carried out an even more thorough examination of the rules and regulations and have decided that in exceptional circumstances, as for example where there have been career breaks on family or other grounds, the Institute would consider electing Fellows above the normal age of 34 years and up to 40 years. We would like to see an increase in the number of clinical fellows and we have therefore agreed that in future one of the five fellowships awarded each year should be earmarked for a clinician in medicine or dentistry and that it should be awarded to a suitable applicant if he or she were otherwise suitably qualified. If there were no suitable clinician the earmarked fellowship should then be allocated to a suitable non-medical candidate.

The number of applications for fellowships to start from October 1990 was 50, as against 51 in 1989. Included in the 50 applications were 10 applications from women and 11 from medically qualified candidates. The Scientific Advisory Committee short-listed 13 candidates and interviewed all of them. I am sure that

the highest standard of our research fellows continues to be maintained, the successful candidates being as follows:—

<i>Name</i>	<i>Place where research will be carried out</i>	<i>Title of research proposal</i>
Dr Anthony R BERENDT	Molecular Parasitology Group, Institute of Molecular Medicine, John Radcliffe Hospital, Oxford.	Molecular mechanisms and pathogenicity of sequestration in <i>Plasmodium falciparum</i> malaria.
Dr V K K CHATTERJEE	Department of Medicine, Addenbrooke's Hospital, Cambridge.	Regulation of gene expression by TRH and thyroid hormone.
Dr Robert N LIGHTOWLERS	School of Neurosciences, Faculty of Medicine, University of Newcastle-upon-Tyne	Yeast cytochrome c oxidase: a model system for determining the molecular basis of human mitochondrial myopathies.
Dr Anthony MAXWELL **	Department of Biochemistry, University of Leicester.	DNA gyrase: structure, mechanism and interaction with antibiotics.
Dr Penelope E STEIN	Department of Haematology, University of Cambridge.	Molecular structure of the hormone binding serpins.

** Dr Maxwell was placed first in order of merit by the Committee and was therefore elected Lister Institute-Jenner Research Fellow.

The Queen's Award for Technological Achievement

When this report was ready to go to press, we were delighted to learn that the Institute had been granted The Queen's Award for Technological Achievement, 1990. The Award is for the development of genetic fingerprinting and goes jointly to the Institute and ICI Cellmark Diagnostics in recognition of the work done to develop, patent and exploit the Alec Jeffreys invention. The technique is described in the award as being extensively used to examine family relationships, for example in paternity disputes where the results give a certainty of 99.99%, and also as being used regularly in forensic case work for identifying individuals from biological samples left at the scene of a crime. The Award is special this year in that 1990 is the Silver Jubilee of the Scheme which is being marked for the first time by the presentation to each winner of a commemorative wall plaque.

Geoffrey S Dawes
Chairman

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

Brockley Hill Stanmore Middlesex HA7 4JD

ACCOUNTS

for the year ended 31 December

1990



THE GOVERNING BODY

Professor G S Dawes, CBE, DM, FRCP, FRS, *Chairman*

D C Hobson, MA, FCA, *Hon Treasurer*

Professor H J Evans, PhD, FRSE

C E Guinness, CVO

The Rt Hon the Earl of Iveagh

Professor Sir Hans Kornberg, MA, DSc, FRS (appointed June 1990)

Professor Dame June K Lloyd, MD, FRCP (appointed June 1990)

Dr Anne L McLaren, MA, DPhil, FRCOG, FRS

Professor D K Peters, MB, BCh, FRCP

Dr A Robertson, CBE, PhD

G T Sammons, MA

Professor Sir Mark Richmond, PhD, ScD, FRCPath, FRS (resigned 21 June 1990)

Clerk to the Governors G J Roderick, BCom

FINANCIAL REPORT OF THE GOVERNING BODY

for the year ended 31 December 1990

The Institute is a company limited by guarantee and has charitable status.

The Governing Body presents the accounts of the Institute for the year ended 31 December 1990.

Results

The results of the Institute for the year ended 31 December 1990 are set out on page 4. The surplus for the financial year is £730,000 compared with a surplus of £520,000 in 1989. The increase is primarily attributable to the higher than normal holding of cash in a period of high interest rates.

Principal activities

The income of the Institute is utilised to support medical research.

Future operations

It is expected that from October 1991 a further 5 Fellowships, this year referred to as Lister Institute Centenary Research Fellowships, will be awarded, making a total (after taking resignations into account) of 25, each normally for a period of five years.

Governing Body

The members of the Governing Body who served at any time during 1990 are shown on page 1.

Auditors

A resolution to reappoint Coopers & Lybrand Deloitte as auditors will be proposed at the General Meeting.

G S DAWES
Chairman
10 June 1991

AUDITORS' REPORT

to the Members of The Lister Institute of Preventive Medicine

We have audited the accounts set out on pages 4 to 11 in accordance with Auditing Standards.

In our opinion the accounts give a true and fair view of the state of affairs of the Institute at 31 December 1990 and of its results and source and application of funds for the year then ended and have been properly prepared in accordance with the Companies Act 1985.

COOPERS & LYBRAND DELOITTE
Chartered Accountants

London
10 June 1991

INCOME AND EXPENDITURE ACCOUNT

for the year ended 31 December 1990

	Notes	1990 £'000	1989 £'000
Income from fixed asset investments	2	514	564
Interest receivable		1,062	760
Other income	3	94	36
		<u>1,670</u>	<u>1,360</u>
Administrative expenses:			
Salaries	4	90	87
Pension costs	11	62	60
Investment management fees		47	46
Other	5	45	48
		<u>(244)</u>	<u>(241)</u>
		1,426	1,119
Grants	6	(696)	(599)
Surplus for the year		<u>730</u>	<u>520</u>
Balance of general fund at beginning of year		16,185	13,128
Movement in value of fixed asset investments	13	(1,434)	2,537
Surplus for the year		<u>730</u>	<u>520</u>
Balance of general fund at end of year		<u>15,481</u>	<u>16,185</u>

The notes set out on pages 7 to 11 form part of these accounts.
Auditors' report page 3.

BALANCE SHEET

at 31 December 1990

	Notes	1990 £'000	1989 £'000
Fixed assets:			
Tangible assets	7	4	5
Investments	8	10,120	9,972
		<u>10,124</u>	<u>9,977</u>
Current Assets:			
Debtors	9	156	70
Cash at bank and in hand		6,777	7,658
		<u>6,933</u>	<u>7,728</u>
Creditors: amounts falling due within one year	10	(363)	(314)
Net current assets		<u>6,570</u>	<u>7,414</u>
Total assets less current liabilities		<u>16,694</u>	<u>17,391</u>
Provision for liabilities and charges	11	(431)	(445)
		<u>16,263</u>	<u>16,946</u>
Capital and Funds:			
Capital fund	12	782	761
General fund	13	15,481	16,185
		<u>16,263</u>	<u>16,946</u>

These accounts were approved by the Governing Body on 10 June 1991.

G S DAWES		Members of the Governing Body
D C HOBSON		

The notes set out on pages 7 to 11 form part of these accounts.
Auditors' report page 3.

STATEMENT OF SOURCE AND APPLICATION OF FUNDS

for the year ended 31 December 1990

	1990 £'000	1989 £'000
Source of funds		
Surplus for the financial year	730	520
Adjustment for item not involving the movement of funds:		
Pension provision	(14)	(16)
Depreciation	1	—
Total	<u>717</u>	<u>504</u>
Funds from other sources:		
Donations	<u>21</u>	<u>—</u>
Sale proceeds of fixed asset investments	<u>865</u>	<u>3,559</u>
	886	3,559
Total source of funds	<u>1,603</u>	<u>4,063</u>
Application of funds		
Purchase of fixed asset investments	<u>(2,447)</u>	<u>(1,345)</u>
	<u>(844)</u>	<u>2,718</u>
Increase/Decrease in working capital		
Increase/(Decrease) in debtors	86	(60)
Increase in creditors	(49)	(43)
	<u>37</u>	<u>(103)</u>
Movement in net liquid funds:		
Cash at bank and in hand	<u>(881)</u>	<u>2,821</u>
	<u>(844)</u>	<u>2,718</u>

The notes set out on pages 7 to 11 form part of these accounts.
Auditors' report page 3.

NOTES TO THE ACCOUNTS

for the year ended 31 December 1990

1 Principal accounting policies

The accounts have been prepared in accordance with the historical cost convention as modified by the revaluation of investments. A summary of the more important accounting policies is set out below.

(a) *Tangible fixed assets*

Tangible fixed assets are stated at their purchase price, together with any incidental expenses of acquisition. Provision for depreciation is made so as to write off the cost of tangible fixed assets on a straight line basis over the expected useful life of the fixed assets concerned.

The principal annual rate used for this purpose is:

Temporary buildings 6 2/3%

(b) *Investments*

Investments are shown at market value in the balance sheet. Changes in the market value are included in the general fund in the year in which they arise.

(c) *Investment income*

Credit is taken for income from fixed asset investments on a cash received basis, except that for gilt-edged securities which is accrued. Investment income is shown net of irrecoverable foreign withholding tax.

(d) *Royalties*

Royalties are accounted for on an accruals basis.

(e) *Foreign currency transactions*

Transactions are translated into sterling at the exchange rate ruling on the date of the transaction. Investments held at the year-end are valued at year-end rates of exchange.

(f) *Donations*

Donations received are credited direct to the Capital Fund.

(g) *Supplementary pensions*

Provision is made in the accounts for the total estimated future supplementary pension payments, discounted to reflect the timing of the payments. This represents the estimated amount that would have to be invested, were the supplementary pensions to be separately funded ("the notional investment").

The amount charged to the income and expenditure account reflects a return on the notional investment shown in the accounts.

The provision for future supplementary pension costs and the charge to the income and expenditure account are calculated every 3 years by an independent professionally qualified actuary. In the intervening years the actuary reviews the appropriateness of the provision and charge to income. Any surplus or deficiency in the provision is recognised immediately.

The provision and charge to income have been calculated on the basis of an actuarial valuation as at 1 January 1989, using the following main assumptions:

The number of persons to whom supplementary pensions are paid will not increase significantly.

The return on the notional investment will exceed the rate of increase in supplementary pensions by 3.5% per annum.

The capital cost of ex-gratia pensions granted is recognised in full in the income and expenditure account of the year in which the pensions are granted.

2 Income from fixed asset investments

	1990	1989
	£'000	£'000
Listed investments	514	561
Unlisted investments	—	3
	<u>514</u>	<u>564</u>

3 Other income

	1990	1989
	£'000	£'000
Royalty income	137	39
Share of royalties payable to third parties	(43)	(3)
	<u>94</u>	<u>36</u>

The royalties relate to the DNA probe which is being marketed by a licensee. Income in 1990 includes £47,000 of backdated royalties due to a change in the royalty agreement during the year.

4 (a) Emoluments of members of the Governing Body

No member of the Governing Body received any emoluments in respect of his services to the Institute during the year (1989 nil).

(b) Employee information

The average number of persons employed by the Institute during the year was 3 (1989 — 3), all of whom were employed in an administrative capacity.

(c) Salaries

	1990	1989
	£'000	£'000
Gross salaries	82	80
Employer's national insurance and state pension contributions	8	7
	<u>90</u>	<u>87</u>

5 Other administrative expenses

	1990	1989
	£'000	£'000
Office expenses	7	6
Audit fee	5	5
Professional fees	3	7
Travel expenses	18	17
General expenses	9	10
Depreciation	1	—
DNA probe expenses	2	3
	<u>45</u>	<u>48</u>

6 Grants

These represent amounts approved for disbursement to the Institute's Research Fellows and other grantees in respect of the year ended 31 December 1990.

7 Tangible fixed assets

	Temporary buildings £'000
Cost	8
At 1 January 1990 and 31 December 1990	—
Depreciation	3
At 1 January 1990	1
Charge for year	—
At 31 December 1990	4
Net book value at 31 December 1990	4
Net book value at 31 December 1989	5

8 Investments*(a) Basis of valuation*

Listed investments are valued at middle market quotations ruling at the year end.

Unlisted investments are valued by the Institute's investment advisers.

(b) Movement during the year

	Market value at 1 January 1990 £'000	Purchases during the year at cost £'000	Proceeds of sales during the year £'000	Changes in market valuation £'000	Market value at 31 December 1990 £'000
Listed	9,972	2,447	(865)	(1,434)	10,120
Unlisted	0	0	0	0	0
	<u>9,972</u>	<u>2,447</u>	<u>(865)</u>	<u>(1,434)</u>	<u>10,120</u>

(c) Historical Cost Information

Historical cost:	Listed £'000	Unlisted £'000	Total £'000
At 31 December 1990	7,353	—	7,353
At 31 December 1989	5,611	—	5,611

9 Debtors

	1990 £'000	1989 £'000
Other debtors	69	25
Prepayments and accrued income	87	45
	<u>156</u>	<u>70</u>

10 Creditors: amounts falling due within one year

	1990	1989
	£'000	£'000
Accruals	359	310
Other creditors including taxation and social security	4	4
	<u>363</u>	<u>314</u>

11 Provision for liabilities and charges

(a) This represents a provision for future supplementary pension payments. Supplementary pensions were being paid in respect of 39 ex-employees at 31 December 1990 (1989 – 40), based on their salary and length of service. The supplementary pensions are unfunded, with payments made out of the Institute's funds as they fall due. No commitments have been made to increase the future supplementary pension payments, this being entirely at the discretion of the Governing Body.

(b) Movements in the provision during the year were as follows:

	1990	1989
	£'000	£'000
Provision at beginning of year	445	461
Transfer from income and expenditure account	62	60
Pensions paid	(64)	(59)
Cost of ex-gratia pension granted	(12)	(17)
Provision at end of year	<u>431</u>	<u>445</u>

12 Capital fund

	1990	1989
	£'000	£'000
Donations and endowments have been received to date from:		
Dr Ludwig Mond (1893)	2	2
Berridge Trustees (1893-98)	46	46
Worshipful Company of Grocers (1894 and 1969-73)	15	15
Lord Iveagh (1900)	250	250
Lord Lister's Bequest (1913-23)	19	19
William Henry Clarke Bequest (1923-26)	7	7
Rockefeller Foundation (1935-36)	3	3
Wolfson Foundation (1969-73)	300	300
Jenner Memorial Studentship Fund (1984)	48	48
Professor William Bullock Bequest (1990)	6	—
Other donations and legacies (1891-1990)	71	71
Centenary donations: Coopers & Lybrand Deloitte	5	—
Guinness PLC	5	—
ICI PLC	5	—
	<u>782</u>	<u>761</u>

13 General fund

	Realised £'000	Unrealised £'000	Total £'000
Balance at beginning of year	11,824	4,361	16,185
Movement in value of fixed asset investments	160	(1,594)	(1,434)
Surplus for the year	730	—	730
	<u>12,714</u>	<u>2,767</u>	<u>15,481</u>

14 Financial commitments

The Institute is committed to paying the salaries and expenses of the 26 present Research Fellows (1989 – 23) over the remainder of their fellowship period (maximum 5 years). The amounts involved, excluding any allowance for future inflation, are as follows:

	1990 £'000	1989 £'000
Payable within one year	697	649
Payable between two to five years	1,340	1,275
	<u>2,037</u>	<u>1,924</u>

In addition to the above commitments, it is the Institute's intention to award 5 new Fellowships annually (each for a period of 5 years) for the foreseeable future.

Auditors' report page 3.

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

Brockley Hill Stanmore Middlesex HA7 4JD

REPORT OF THE GOVERNING BODY CENTENARY YEAR 1991



THE GOVERNING BODY

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Solicitors:

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10 Norwich Street

London EC4A 1BD

Auditors:

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Plumtree Court

London EC4A 4HT

SCIENTIFIC ADVISORY COMMITTEE

Dr Anne L McLaren, MA, DPhil, FRCOG, FRS, *Chairman*

Dr M J Crumpton, PhD, FRS

Professor S Gordon, MB, ChB

Professor P J Lachmann, ScD, FRCP, FRS

Professor K Murray, PhD, FRS

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Professor Anne E Warner, PhD, FRS

Professor H J Evans, PhD, FRSE, retired in June 1990

ANNUAL GENERAL MEETING 10 JUNE 1991

REPORT OF THE GOVERNING BODY

Governing Body

There have been changes in the composition of the Governing Body.

In June 1990 the Governing Body were reluctant to accept the resignation of Professor Sir Mark Richmond, whose responsibilities had considerably increased by his appointment to the Chairmanship of the SERC. The Governors wish to thank Sir Mark for his contribution to their work. In the same month the Governors were pleased to co-opt Professor Sir Hans Kornberg, MA, DSc, FRS, Master of Christ's College, Cambridge, and Professor Dame June Lloyd, MD, FRCP, Nuffield Professor of Child Health, British Postgraduate Medical Federation.

Scientific Advisory Committee

In June 1990 Professor H John Evans, a member of the Governing Body, retired from membership of the Scientific Advisory Committee. Professor Evans was a founder member of the Committee and he was asked in 1988 (when his service on the Committee should have ended by rotation) to remain for a further two years to afford continuity during the early period of Sir James Gowans' Chairmanship. The Governing Body are confident that the Members would wish to thank Professor Evans for his outstanding contribution to the work of the Committee. The Governing Body were pleased that Professor D Keith Peters, Regius Professor of Physic, Cambridge, accepted their invitation to replace Professor Evans.

It is with great pleasure that we congratulate the Committee Chairman, Dr Anne L McLaren, who has been awarded a Royal Medal of The Royal Society.

Institute Membership

The Governing Body are pleased to report that the Senate of the University of Edinburgh has reappointed Professor H John Evans as the University's representa-

tive on our Membership for a further period of four years to 30th September 1994. Professor Evans is, of course, a member of the Governing Body.

We are also pleased to report the election to Membership of Dr Jean Dolby, MA, PhD, who was a senior research scientist on the staff for over 20 years. Dr Dolby's main research interest was in *bordetella pertussis* and she was a colleague of Dr Standfast.

It is with great regret that we report the death on 10th October 1990 of Dr Arthur F B Standfast, who was aged 85 years. Arthur was for 26 years Head of the Bacterial Vaccine Department at the Elstree Laboratories. For the whole of this period his research was mainly on pertussis, cholera, typhoid and tetanus vaccines and he organised their commercial production. From 1951 to 1969 Arthur was co-editor with Professor B C J G Knight of the Journal of General Microbiology. Although Arthur was unable, because of ill-health, to attend recent AGMs, he will be missed by many Members of the Institute.

We report the retirement from Membership of Professor Otto Westphal of Montreux, Switzerland, and Dr J M Creeth, a former member of staff who has recently removed to Shropshire.

The Governors wish to congratulate Professor Walter Morgan and Dr Winifred Watkins on the award by the American Society of Clinical Pathologists of Philip Levene Medals for their contribution to their special aspects of pathology. The medals were awarded to Professor Morgan and Dr Watkins in Dallas in October 1990.

In last year's Report we announced that Professor Walter Morgan would celebrate his 90th birthday on 5th October 1990. Professor Morgan has been associated with the Institute for 65 years. The Governing Body decided to mark the occasion of this special birthday with a small luncheon party for him and for a few of his friends on Monday, 5th November 1990. Members generously contributed to a gift for Professor Morgan which was given to him at the luncheon.

Institute's Centenary

The Institute's centenary falls on 25th July 1991, and the Governing Body, in addition to publishing a four-page Special Report in The Times, are inviting Members of the Institute, Fellows, scientific colleagues from universities and other learned bodies and other guests with their spouses to a Dinner at the Royal College of Surgeons on the evening of the centenary.

The Queen's Award for Technological Achievement 1990

We reported the receipt of the Award last year. The presentation was made on 5th June 1990 in the Royal Society of Medicine by the Lord-Lieutenant of Greater London, Field Marshal the Lord Bramall, KG, GCB, OBE, MC, JP. It was a most enjoyable occasion and the following is a résumé of the Lord-Lieutenant's address:—

“Chairman, Lord Iveagh, Ladies and Gentlemen,

It gives me very great pleasure, in this Silver Jubilee of the Queen's Award scheme, to be here this morning, presenting what is for me the first Award in Greater London this year, and one of only 49 for Technology nationwide

Indeed, as we are here in the Royal Society of Medicine, you will be interested to know that this year pharmaceutical and health companies have gained no less than 20 awards — 15 for Export and five for Technology — a tonic for the drugs and health industries.

But, in this general category, surely none can have been better deserved than yours, widely hailed as the greatest single breakthrough in forensic science this century.

And to add to my pleasure in presenting this Award, it is for me a particular privilege to be received by members of this famous Institute, soon to celebrate your centenary, a learned body that includes in Sir Arthur Harden a Nobel Prize winner, and with a staff that has been, and indeed is, made up of many Fellows of the Royal Society and other scientists of the very greatest distinction.

How appropriate it was that in 1984 the great discovery of genetic fingerprinting should have been made by one of your Research Fellows, Doctor (as he then was) Alec Jeffreys — whom I am delighted to see here today — and how justified his subsequent promotion to a personal Chair in Genetics at Leicester, and his award of a Fellowship of the Royal Society for this outstanding contribution to modern science.

But it is for the development of this process, with ICI Cellmark Diagnostics, which took the technology further to allow tests on a commercial scale, that this Award has been won by the Lister Institute, and I congratulate all who have worked so hard to bring about this great achievement.

The certainty of this technique, now, as you all know, routinely used in paternity and immigration disputes, murder hunts and rape cases, brings a variety of benefits — in criminal cases more successful convictions have been secured, and in civil cases lower legal costs to individuals or to the Legal

Aid Fund, and other savings to public funds as fewer cases go to court and so fewer appeals. Apart from the benefits to individuals, all this can only be good news to our overstretched legal system, which in Greater London is particularly pressed.

And with Heathrow Airport in my Lieutenancy, I know how valuable this process is in immigration disputes, settling one way or the other arguments of claimed relationships.

To mark the momentous contribution made by the Lister Institute both to science and to the law, it gives me very great pleasure to present to the Chairman of your Governing Body, Professor Dawes, on behalf of Her Majesty, this Emblem and Scroll of the Queen's Award for Technological Achievement 1990."

The Governing Body are pleased to report that Mr Hobson, Mr Roderick and Professor Jeffreys, representing the Institute as winners of the award, were presented to the Queen at a Reception held at Buckingham Palace on 20th February 1991.

Research Fellowship Scheme

The Governors wish to report that:

- Professor Graham J Boulnois, University of Leicester, was selected as the 1989 Fleming Lecturer of the Society of General Microbiology and that he has also been elected to serve on the Society's Council for four years from 14th September 1990. He has also been appointed a member of the Polysaccharide Vaccine Sub-Committee of the MRC's Committee on development of vaccine and immunization procedures, and a member of the molecular Biology Advisory Group of the AFRC Institute for Animal Health.
- Dr James G McCormack, University of Leeds, resigned his fellowship on 30th September 1990 on appointment as Head of Biochemical Pharmacology, Syntex Research Centre, Heriot-Watt University, Edinburgh.
- Dr David B G Oliveira, Department of Medicine, Addenbrooke's Hospital, Cambridge, has been appointed Senior Registrar in Renal Medicine at Addenbrooke's Hospital in the Cambridge District Health Authority, from 1st July 1990 to 30th June 1991 to enable him to gain further clinical experience at senior registrar level.
- Dr Penny E Stein, Department of Haematology, University of Cambridge, has been granted one year's leave of absence without pay to enable her to undergo

advanced training in crystallography in the Department of Microbiology and Infectious Diseases at the University of Alberta, Edmonton, Canada, from 1st March 1991.

The following Fellows completed their fellowships:

- Dr Malcolm A McCrae, University of Warwick on 30th September 1990 (after one year's extension),
- Dr Andrew J King on 31st January 1991,
- Dr Shamshad Cockcroft on 28th February 1991.

The Governors warmly congratulate:

- Dr L K Borysiewics, Department of Medicine, Addenbrooke's Hospital, Cambridge, (a Fellow from 1st October 1983 to 31st December 1987) who has been appointed Professor of Medicine at the University Hospital of Wales, Cardiff, from 1st January 1991,
- Dr Dennis R Burton, University of Sheffield, on his promotion to a personal Chair in the Department of Biochemistry, University of Sheffield, from 1st October 1990.
- Professor Alec J Jeffreys, University of Leicester, on his appointment by the Royal Society to the Wolfson Research Professorship from 1st October 1991. This appointment necessitates the resignation of Alec Jeffreys from his Lister Fellowship.
- Dr Barry V L Potter, University of Leicester, on his promotion to Lister Institute Professor of Pharmaceutical Chemistry at the University of Bath, from 1st October 1990.
- Dr David W Rice, University of Sheffield, to a Readership in the Department of Biochemistry, University of Sheffield, from 1st October 1990, and
- Dr Stephen J Yeaman, University of Newcastle upon Tyne (a Fellow from 1st October 1984 to 30th September 1989), to Professor of Molecular Enzymology in the Department of Biochemistry and Genetics from 1st August 1990.

The number of applications for fellowships to start from 1st October 1991 was 55 as against 50 in 1990. Included in the 55 applications were nine from women and ten from medically qualified candidates. The Scientific Advisory Committee short-listed twelve candidates and interviewed all of them. I am sure that the highest standard of our research fellows continues to be maintained, the successful candidates being as follows:

<i>Name</i>	<i>Place where research will be carried out</i>	<i>Title of research proposal</i>
Dr John J BLOW **	ICRF Clare Hall Laboratories, Blanche Lane, South Mimms, Potters Bar, Herts.	Biochemical analysis of chromosome replication in animal cells.
Dr Christopher G DOWSON	Department of Microbial Genetics, University of Sussex.	Penicillin resistance in streptococcus pneumoniae, its origins, mechanisms and epidemiology.
Dr Anthony R GREEN	Department of Haematology, University of Cambridge.	The role of the SCL (stem cell leukaemia) gene in haemopoiesis.
Dr Stephen P O'RAHILLY	Departments of Medicine and Clinical Biochemistry, Addenbrooke's Hospital, Cambridge.	The molecular basis of insulin resistance in man.

** Dr Blow was placed first in order of merit by the Committee and was therefore elected Lister Institute-Jenner Centenary Research Fellow.

Bequest – The late Professor W Bulloch

We are pleased to report the receipt of a bequest of £5,852 under the terms of a Trust created by Professor W Bulloch under his Will dated 5th June 1936. Professor Bulloch was a member of the Governing Body from July 1918 and Chairman from February 1932 until his death on 11th February 1941.

It is a pleasure to take this opportunity of thanking the Governing Body for their wise counsel. We owe a particular debt to the Hon Treasurer whose skilful management of the investments has continued to keep them sound. Our Secretary has continued his imperturbable and far-sighted devotion to the interest of the Institute, its Members and Fellows.

Geoffrey S Dawes
Chairman



THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

*Commemorative
Review*

1891-1991



*A Commemorative Review to mark the occasion
of the Lister Institute's centenary*

25 July 1991

CONTENTS

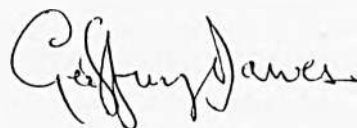
Foreword by the Chairman of the Governing Body	5
The Governing Body	6
The Scientific Advisory Committee	6
From Rabies to Rapists	7
The Membership	11
Current Research Fellows	13
Former Research Fellows	17
Some Major Scientific Contributions	19
Recent Times	23
Historical Notes	27
Acknowledgements	32



Joseph Lister

FOREWORD

ONE hundred years ago the bite of a mad dog, the fear of hydrophobia, smallpox, consumption, infections in childbirth and surgery were commonplace. Men of vision, our founders, recognised the potential benefits of research in preventive medicine, especially in the work of Louis Pasteur in Paris. Their foresight led to the foundation of the Lister Institute to provide the laboratories which were then needed. Times change. There are now many laboratories in the universities and elsewhere which provide the basic facilities for research and discovery. Discovery depends on the talents of young men and women who need the opportunity to work whole time on new and often unorthodox problems. The unhappy financial circumstances which led 13 years ago to the closure of the Institute's laboratories have resulted in a fortunate outcome. Its income is now used to give freedom for five years each to the Lister Fellows chosen competitively in the field of preventive medicine, interpreted broadly to cover all the sciences which provide the basis of modern medicine. The success and breadth of their commitment to discovery are a source of pride in this Centenary Year.



Chairman

THE GOVERNING BODY

Professor Geoffrey S Dawes, CBE, DM, FRCP, FRS, *Chairman*

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Professor H John Evans, PhD, FRSE

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The Rt Hon the Earl of Iveagh

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ADMINISTRATIVE OFFICES

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Stanmore

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FROM RABIES TO RAPISTS

The Lister Institute of Preventive Medicine 1891-1991

"EARL OF IVEAGH donates £40 million to medical research." That would be the newspaper headline today, reporting the startling gift of £250,000 made by Lord Iveagh in 1898 which secured the future of the first British institute devoted to research into preventive medicine. A diligent reporter would also be able to uncover the human element behind the bequest and spice up the story with a measure of Franco-British rivalry.

In February 1896 Jim Jackson, middle-aged carter at Elveden Hall, the Suffolk seat of Lord Iveagh, was uncharacteristically bitten by his faithful dog. The local doctor, Dr Walter Trotter, suspected that the dog was rabid and the matter was reported to Lord Iveagh who immediately instructed Jim Jackson to go to Cambridge or on to London for treatment. There was in fact no anti-rabies treatment available in this country, so Lord Iveagh sent Mr Jackson and Dr Trotter to Paris to the Pasteur Institute.

The story has two happy endings: although the dog was rabid, Jim Jackson lived to the age of 89; and Lord Iveagh, realising that there was no centre in Britain equivalent to the Pasteur Institute, started to wonder how he could redress the balance.

After a series of meetings in London and Paris, Lord Iveagh made his first donation of £5,000 to the Jenner Memorial Fund which was supporting the building of an Institute of Preventive Medicine in Chelsea. Hoping that this would encourage other people to donate money as well he kept quiet about his grander intentions.

Funds only trickled in, so on 23 December 1898 virtually every newspaper in the country carried the announcement that Lord Iveagh was giving £250,000 to help the poor in Dublin and £250,000 to the Institute in Chelsea. Research could start in earnest as the result of this enormous gift which in today's terms has dwarfed any other contributions and marked the beginning of an association with the Guinness family and the Guinness Company which has continued to the present day.

The original idea for the Institute had emerged nearly 10 years before, when in early 1889 Sir James Whitehead, then Lord Mayor of London, visited Pasteur and had also been deeply impressed by his success in inoculating people who had been bitten by rabid dogs.



*Sir James Whitehead
Lord Mayor of London
1888-1889*

Determined to establish a similar institute in this country and also to reward Pasteur, Sir James formed a Committee under the chairmanship of Sir Joseph Lister – famous for introducing antiseptic techniques into surgery.

After a few meetings, the Committee suggested that a Jenner-Pasteur Institute be established in Cambridge for “the preparation and inoculation of material which has been found successful for preventive inoculation, and the carrying out of investigations fitted to increase our knowledge of the nature of disease-producing germs”.

These were bold words but they were meaningless without funds and in December 1890 a public appeal was launched. Some things have not changed, as anyone involved with scientific or medical research will recognise, and money trickled in slowly. However, the Grocers’ Company responded generously and the trustees of Mr Richard Berridge’s estate who had stipulated that his money should be used for “advancing the sanitary and economic sciences” were persuaded to part with £40,000, provided the Institute was based in London.

With about £60,000 in the bank, the project had a future and on 25 July 1891, the British Institute of Preventive Medicine was incorporated, an event being commemorated today.

Developments took place slowly over the next few years. While a site had been found on the Duke of Westminster’s estate on Chelsea Bridge Road, local residents objected and sent a petition to the Home Secretary voicing their fears about bacteria bringing disease to their neighbourhood.

Temporary premises were found at 101 Great Russell Street near the British Museum and research started early in 1894. The Institute changed its name twice: first to The Jenner Institute of Preventive Medicine and finally in 1903 to The Lister Institute of Preventive Medicine. (Sir Joseph, subsequently Lord, Lister became the first chairman of the governing body).

Meanwhile, the first half of the Chelsea building was completed in 1898 and the scientific work started there some six months before Lord Iveagh’s bequest was made public.

The achievements of researchers at the Lister Institute over the century are broad and start in 1894. Dr Armand Ruffer, the interim director of the Institute and a protégé of Pasteur – with the help of Charles Sherrington, professor-superintendent of the Brown Animal Sanatory Institution in Wandsworth and a piebald pony called Tom – made the first diphtheria antitoxin to be produced in Britain. Moreover, it was given successfully to Sherrington’s nephew who was critically ill with the disease.

It was in 1905 that the Institute was firmly established academically: it became a school of London University and for the next 70 years senior members of staff held University titles, while the research facilities at the Institute were widely used for the training of postgraduate students.

It is impossible to pick out a representative handful of the many contributions made by researchers at the Lister Institute throughout the first half of this century and well into the sixties and seventies because they cover such a spread of subjects – from the study of infectious diseases, the process of fermentation, the development of blood products to investigations into many other biochemical processes, including the successful freeze-drying of smallpox vaccine which made such an impact on the eradication of the disease. An account of these achievements can be found in the essay towards the end of this booklet on page 19.

Funds became increasingly scarce in the seventies (investment income dropped and the laboratories came into fierce competition from commercial interests at home and abroad) and the Institute could no longer afford to maintain its laboratories. Despite this adversity, it is a sign of long term success that the spirit of the Institute and its intellectual assets continued to thrive during this period.

Professor Albert Neuberger, Chairman between 1970 and 1988, and other members of the governing body, decided to dispose of the Institute's capital assets. The Chelsea laboratories closed in December 1975, the vaccines and sera laboratories at Elstree in June 1978, and the Department of Health absorbed the Elstree Blood Products Laboratory shortly afterwards. The administrative heart of the Institute is now based at Stanmore, Middlesex.

In the place of bricks and mortar the Research Fellowship scheme was established which supports post-doctoral biomedical research throughout the United Kingdom. Young research scientists can carry out full-time research in university departments of their choice for five years. There have been 40 fellows to date, of whom 24 are currently working on projects. Nine fellows have been appointed to professorial chairs.



The first Earl of Iveagh

The first five fellows were appointed in 1982, one of whom was Dr Alec Jeffreys of the University of Leicester, who discovered in 1984 that every person (except identical twins) has a unique genetic "fingerprint". The Institute immediately took out world-wide patents to cover the technique and then joined forces with ICI for the commercial development of the technique with royalties shared by the Institute, Dr Jeffreys and Leicester University.

Dr Jeffreys became something of an international media star when the details of his technique were announced and subsequently used to solve two savage sexual murders in Leicestershire in the late eighties. Since then the technique has been used world-wide in many other criminal investigations and in paternity and immigration cases.

In 1990 the Institute was granted the Queen's Award for Technological Achievement for the development of genetic "fingerprinting", which was formally recognised by The Queen at Buckingham Palace in February 1991. The award is a fitting tribute to the original purpose of the Institute first outlined 100 years ago, an inspiration for research fellows working today and will keep the spirit of the Institute alive for the future.

Members of the Institute, past and present post-doctoral research fellows and historians of medicine will realise that this short introduction gives a necessarily brief account of the rich history and the wide-ranging achievements of the Lister Institute over the last 100 years. Those wishing to know more about the Institute should turn to the essay on page 19 *et seq.*

MEMBERS OF THE INSTITUTE

on 25 July 1991

- Professor John P Arbuthnott, MRIA, PhD, ScD, FIBiol *representing the Royal Irish Academy*
- Dr Brigitte A Askonas, PhD, FRS *former member of Scientific Advisory Committee*
- Professor Alan O Betts, MA, PhD, MRCVS *representing the Royal College of Veterinary Surgeons*
- Professor David J Bradley, DM, FRCP, FRCPath *representing the University of London*
- Sir Arnold Burgen, MD, FRCP, FRS *former member of Scientific Advisory Committee*
- Lord Butterfield, OBE, MD, FRCP *former Regius Professor of Physic, Cambridge*
- The Rt Hon Paul Channon, MP *former Governor*
- Professor Sir Cyril Clarke, KBE, MD, ScD, FRCP, FRS *former Governor*
- Professor Leslie H Collier, MD, DSc, FRCP, FRCPath *former member of staff*
- Dr Michael J Crumpton, PhD, FRS *former member of Scientific Advisory Committee*
- Professor Geoffrey S Dawes, CBE, DM, FRCP, FRS *Governor*
- Dr Derek E Dolby, PhD *former member of staff*
- Dr Jean M Dolby, MA, PhD *former member of staff*
- Professor Sir Anthony Epstein, CBE, MD, DSc, FRCPath, FRS *former member of Scientific Advisory Committee*
- Professor H John Evans, PhD, FRSE *Governor, and representative of the University of Edinburgh*
- Dr Henry W K Fell, MB, BChir *representing the British Medical Association*
- Professor Malcolm A Ferguson-Smith, FRCP, FRCPath, FRS *representing the University of Cambridge*
- Professor Alan A Glynn, MD, FRCP, FRCPath *former member of Scientific Advisory Committee*
- Professor Siamon Gordon, MB, ChB *Scientific Advisory Committee member*
- Sir James Gowans, CBE, FRCP, FRS *former Governor*
- Professor Michael E Grant, DPhil *representing the University of Manchester*
- Mr C Edward Guinness, CVO *Governor*
- Professor Henry Harris, DM, DPhil, FRS *representing the University of Oxford*
- Mr David C Hobson, CBE, MA, FCA *Governor*
- Rt Hon the Earl of Iveagh *Governor*
- Professor Colin Kaplan, MSc, MB, ChB, FRCPath *former member of staff*
- Professor Conor T Keane, MA, MB, FRCPath *representing the University of Dublin*
- Professor Ralph A Kekwick, DSc, FRS *former member of staff*
- Professor Sir Hans Kornberg, MA, DSc, FRS *Governor*
- Professor Peter J Lachmann, ScD, FRCP, FRS *Scientific Advisory Committee member*
- Dr Ruth M Lemcke, PhD *former member of staff*
- Professor Dame June K Lloyd, DBE, MD, FRCP *Governor*

- Dr Anne L McLaren, MA, DPhil, FRCOG, FRS *Governor, appointed by the Royal Society, and member of the Scientific Advisory Committee*
- Dr Paul M O Massey, MD, MA *representing the Worshipful Company of Grocers*
- Professor Walter T J Morgan, CBE, DSc, FRS *former member of staff*
- Dr Arthur E Mourant, DM, FRCP, FRS *former member of staff*
- Dr H Graham S Murray, MD *former member of staff*
- Professor Kenneth Murray, PhD, FRS *Scientific Advisory Committee member*
- Professor Albert Neuberger, CBE, MD, FRCP, FRCPath, FRS *former Governor*
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- Professor D Keith Peters, MB, BCh, FRCP *Governor, member of the Scientific Advisory Committee, and Regius Professor of Physic, Cambridge*
- President, Royal College of Physicians, Edinburgh *representing the College*
- President, Royal College of Physicians, London *representing the College*
- President, Royal College of Surgeons of England *representing the College*
- Miss Barbara A Prideaux *former member of staff*
- Regius Professor of Physic, University of Cambridge *representing same (Prof D Keith Peters)*
- Professor Sir Mark Richmond, ScD, FRS *former Governor*
- Dr Alan Robertson, CBE, PhD *Governor*
- Mr Gordon J Roderick, BCom *Institute Secretary, and Clerk to the Governors*
- Mr Geoffrey T Sammons, MA *Governor*
- Dr Ruth Sanger, PhD, FRS *former member of staff*
- Professor William V Shaw, MD *former member of Scientific Advisory Committee*
- Professor A David Smith, MA, DPhil *former member of Scientific Advisory Committee*
- Professor Alasdair Steele-Bodger, CBE, FRCVS *representing the Royal Agricultural Society*
- Professor Bruce A D Stocker, FRS *former member of staff*
- Dr George S Turner, PhD *former member of staff*
- Dame Olga Uvarov, DBE, FRCVS *former representative of the Royal College of Veterinary Surgeons*
- Mr Leon Vallet, MA *former member of staff*
- Professor Anne E Warner, PhD, FRS *Scientific Advisory Committee member*
- Dr Winifred M Watkins, DSc, FRS *former member of staff*
- Professor Sir David J Weatherall, MD, FRCP, FRS *former Governor*
- Dr Bernard G F Weitz, OBE, DSc, MRCVS *former member of staff*
- Mr Sidney A White, FCCA *former member of staff*

CURRENT LISTER INSTITUTE POST-DOCTORAL RESEARCH FELLOWS

NAME, PRESENT LOCATION & DATE OF APPOINTMENT	TITLE OF RESEARCH PROJECT
BERENDT , Dr Anthony R, BM, BCh, MRCP Institute of Molecular Medicine John Radcliffe Hospital, Oxford From 1 Sept 1990	Molecular mechanisms and pathogenicity of sequestration in <i>Plasmodium falciparum</i> malaria
BOULNOIS , Professor Graham J, BSc, PhD <i>Lister Institute-Jenner Fellow</i> University of Leicester From 1 Oct 1986	Molecular basis of bacterial virulence
BURCHELL , Dr Ann, BSc, PhD Ninewells Hospital, University of Dundee From 1 Oct 1989	The biogenesis, regulation and genetic deficiencies of the proteins of the microsomal glucose-6-phosphatase system
BURTON , Professor Dennis R, BA, PhD <i>Lister Institute-Jenner Fellow</i> University of Sheffield From 1 Oct 1985	Molecular characterisation of the cell surface molecules of the human monocyte
CONNOLLY , Dr Bernard A, BSc, PhD University of Southampton From 1 Oct 1989	Specific inactivation of DNA binding proteins and transcription and translation by synthetic oligonucleotides containing reactive bases.
EGGLESTON , Dr Paul, BSc, PhD University of Liverpool From 1 Oct 1987	The control of insect disease vectors through recombinant DNA technology
FOX , Dr Keith R, MA, MPhil, PhD University of Southampton From 1 Oct 1989	Structural properties and biological relevance of peculiar DNA sequences
FREEMAN , Dr Sally, BSc, PhD Aston University From 1 Oct 1989	Projects in biomedical organophosphorus chemistry: AIDS nucleotide prodrugs, anti-cancer ether phospholipids and carbon-phosphorus bond biosynthesis

NAME, PRESENT LOCATION & DATE OF APPOINTMENT	TITLE OF RESEARCH PROJECT
<p>HAWKINS, Dr Phillip T, BSc, PhD Institute of Animal Physiology and Genetics Research, Babraham From 1 Oct 1988</p>	<p>An investigation of the cellular and molecular neurobiology of inositol pentakisphosphate and inositol hexakisphosphate</p>
<p>HOLMES, Dr Nicholas J, BA, PhD University of Cambridge From 1 Oct 1990</p>	<p>Molecular analysis of T cell recognition</p>
<p>JACKSON, Dr Ian J, MA, PhD MRC Human Genetics Unit, Western General Hospital, Edinburgh From 1 Oct 1986</p>	<p>Isolation, characterisation and manipulation of genes regulating mouse development</p>
<p>JEFFREYS, Professor Alec J, BA, DPhil, FRS University of Leicester From 1 Oct 1982</p>	<p>Molecular analysis of the structure, function and evolution of developmentally regulated animal genes</p>
<p>KROLL, Dr J Simon, MA, BM, BCh, MRCP University Department of Paediatrics, John Radcliffe Hospital, Oxford From 1 Oct 1986</p>	<p>Studies into the molecular genetics of virulence of <i>Haemophilus influenzae</i></p>
<p>LA THANGUE, Dr Nicholas B, MSc, PhD <i>Lister Institute-Jenner Fellow</i> National Institute for Medical Research, Mill Hill From 1 Oct 1987</p>	<p>Transcriptional control in embryonic stem cells</p>
<p>LIGHTOWLERS, Dr Robert N, BSc, PhD The Medical School, University of Newcastle-upon-Tyne From 1 Dec 1990</p>	<p>Yeast cytochrome <i>c</i> oxidase: a model system for determining the molecular basis of human mitochondrial myopathies</p>
<p>MAXWELL, Dr Anthony, BSc, PhD <i>Lister Institute-Jenner Fellow</i> University of Leicester From 1 Jan 1991</p>	<p>DNA gyrase: structure, mechanism and interaction with antibiotics</p>

NAME, PRESENT LOCATION & DATE OF APPOINTMENT	TITLE OF RESEARCH PROJECT
OLIVEIRA, Dr David B G, MB, BChir, MA, MRCP Department of Medicine, Addenbrooke's Hospital, Cambridge From 1 Oct 1987	T suppressor cells in mouse and man
POTTER, Professor Barry V L, MA, DPhil, MRSC, CChem Lister Institute Professor of Pharmaceutical Chemistry, University of Bath From 1 Oct 1987	(a) Novel non-hydrolysable analogues of inositol phosphate second messengers; (b) Mechanisms of biological catalysis by RNA
REIK, Dr Wolf, MD, PhD Institute of Animal Physiology and Genetics Research, Babraham From 1 Oct 1987	Gene transfer in mice: studies on the chromosomal position effect and gene targeting in adult animals
RICE, Dr David W, MA, DPhil University of Sheffield From 1 Oct 1988	Targeting medically important biomolecules for structure analysis
RIVETT, Dr A Jennifer, BSc, PhD <i>Lister Institute-Jenner Fellow</i> University of Leicester From 1 Oct 1989	Analysis of a multifunctional cylindrical particle
SMITH, Dr Geoffrey L, BSc, PhD <i>Lister Institute-Jenner Fellow</i> University of Oxford From 1 Oct 1988	An analysis of genes affecting <i>vaccinia</i> virus virulence
STEIN, Dr Penelope E, BMedSc, MB, BChir, PhD University of Cambridge From 1 Sept 1990	Molecular structure of the hormone binding serpins
WISCHIK, Dr Claude M, BA, BMBS, BMedSc University of Cambridge From 1 Oct 1984	Structure and biochemistry of paired helical filaments in Alzheimer's disease



From an electron micrograph of a tissue cyst of *Toxoplasma gondii* in the brain of a mouse.

FORMER LISTER INSTITUTE POST-DOCTORAL RESEARCH FELLOWS

NAME, LOCATION & PERIOD OF FELLOWSHIP	PRESENT APPOINTMENT
ALMOND , Professor Jeffrey W, BSc, PhD University of Leicester 1 Dec 1984 – 31 Aug 1985	Professor of Microbiology University of Reading
ARMITAGE , Dr Judith P, BSc, PhD University College, London 1 Oct 1982 – 30 Sept 1985	Lecturer St Hilda's College, Oxford
BEDDINGTON , Dr Rosa S.P, BA, DPhil University of Oxford 1 Oct 1983 – 30 Sept 1988	Research Scientist AFRC Institute, Edinburgh
BORYSIEWICZ , Professor Leszek K, BSc, MB, BCh, PhD, FRCP University of Cambridge 1 Oct 1983 – 31 Dec 1987	Professor of Medicine University of Wales College of Medicine, Cardiff
CLORE , Dr G Marius, BSc, MB, BS National Institute for Medical Research Mill Hill 1 Oct 1982 – 30 Sept 1984	Joint Head, Biological NMR Group Max-Planck Institute, Munich
COCKCROFT , Dr Shamshad, BSc, PhD University College, London 1 Mar 1986 – 28 Feb 1991	Research Scientist, University College, London
FRY , Dr Jonathan P, MA, PhD University College, London 1 Oct 1983 – 30 Sept 1988	Lecturer, University College, London
HALLIWELL , Professor Barry, BA, DPhil, DSc King's College, London 1 Oct 1983 – 30 Sept 1988	Professor, Department of Biochemistry, King's College, London

NAME, LOCATION & PERIOD OF FELLOWSHIP	PRESENT APPOINTMENT
<p>HIGGINS, Professor Christopher F, BSc, PhD, FRSE University of Dundee 1 Oct 1983 – 30 Sept 1989</p>	<p>Principal Scientist, Imperial Cancer Research Fund and a Fellow of Keble College, Oxford</p>
<p>KING, Dr Andrew J, BSc, PhD University of Oxford 6 Feb 1986 – 31 Jan 1991</p>	<p>Wellcome Senior Research Fellow University of Oxford</p>
<p>LAW, Dr Sai-Kit Alex, BS, PhD University of Oxford 1 Sept 1982 – 30 Sept 1986</p>	<p>Research Fellow MRC Immunochemistry Unit, Oxford</p>
<p>McCORMACK, Dr James G, BSc, PhD University of Leeds 1 Oct 1988 – 30 Sept 1990</p>	<p>Head of Biochemical Pharmacology Syntex Research Centre Heriot-Watt University, Edinburgh</p>
<p>McCRAE, Dr Malcolm A, BSc, PhD University of Warwick 1 Oct 1984 – 30 Sept 1990</p>	<p>Reader Department of Biological Sciences University of Warwick</p>
<p>NUNN, Dr Brian J, MSc, PhD University of Cambridge 1 Oct 1984 – 31 Oct 1986</p>	<p>[Deceased]</p>
<p>PERKINS, Dr Stephen J, BA, DPhil Kennedy Institute of Rheumatology, London 1 Feb 1983 – 31 Oct 1986</p>	<p>Wellcome Trust Senior Lecturer Royal Free Hospital School of Medicine London</p>
<p>YEAMAN, Professor Stephen J, BSc, PhD University of Newcastle-upon-Tyne 1 Oct 1984 – 30 Sept 1989</p>	<p>Professor Department of Biochemistry & Genetics University of Newcastle-upon-Tyne</p>

SOME MAJOR SCIENTIFIC CONTRIBUTIONS

Infectious Disease

From the late 19th century to 1975, the study of infections – their pathology and epidemiology, the vaccines and antitoxins for their prevention and cure, and the protozoa, bacteria and viruses that cause them – was a major part of the Institute's activities. The Institute also provided, during its early years, instruction and education in preventive medicine to medical officers of health, medical practitioners, veterinary surgeons and students.

At the turn of the century the epidemiology of plague was tackled in collaboration with the Royal Society, when in 1905-08 the Plague Commission in India, under Charles Martin's direction, proved that the rat flea was a carrier of the plague bacillus. This interest in tropical epidemiology was extended to some distinguished work on fleas and lice, a study of the life cycle of a trypanosome in fleas and rats, and another study in Uganda by Dr Muriel Robertson on the life cycle of trypanosomes in cattle and the tse-tse fly. In the 1950s and 1960s the Institute collaborated in a world-wide investigation of the feeding habits of the blood-sucking mosquitoes and tse-tse flies that carry malaria, yellow fever and trypanosomiasis, and in work on the immunopathology of trypanosomiasis.

Sir Charles Martin and Dr Harriette Chick made pioneer studies of the viscosity and the heat denaturation of proteins in solution. Their investigation of the properties of the globulins separable from horse serum had implications for subsequent work on the refinement of antitoxic sera produced in the horse.

The emphasis in the 1920s had been on the entero-bacteria, especially those responsible for infections of the gut. At that time, Dr Joseph Arkwright was the first to describe in the typhoid bacillus a form of variation that was later proved to be of fundamental importance in medical bacteriology, whereby virulence and a certain constituent of the cell-wall were lost together – one indeed being dependent on possession of the other.

The Bacteriology Department, under John Ledingham, during the 1920s and 30s concentrated on the study of viruses such as cowpox, smallpox and chickenpox. By high-speed centrifugation relatively pure preparations of the viral elementary bodies were obtained for the first time and proved to be infective virus. Dr Emmy Klieneberger investigated successfully – as a pioneering study – some strange pleuropneumonium-like organisms that were without a firm

cell wall. These micro-organisms, now called mycoplasma, are of outstanding clinical importance today. The Institute's studies also included looking at the mode of infection and spread of poliomyelitis virus in animal and human tissues.

In 1953 a Guinness-Lister Unit was established through the generosity of Arthur Guinness Son and Company, and this Unit studied among other important subjects antigen inheritance in bacteria and defined the genes whose mutation determined the variation first described by Arkwright. It was in a bacillus of another type of gut infection, dysentery, that Walter Morgan during the 1930s first demonstrated the structure of the cell-wall constituent associated with virulence: a conjugate of phospholipid, polysaccharide and protein that later proved to be characteristic of many other bacteria, and of prime significance in the genesis of the infections they caused.

In the 1950s, Leslie Collier, at the Elstree laboratories, successfully freeze-dried smallpox vaccine. The freeze-dried suspensions of vaccine pulp were stable over long periods and even at 37°C deteriorated very slowly. This method of culture was used by the Institute to produce many millions of doses of dried smallpox vaccine and was taken up by commercial laboratories throughout the world. This vaccine must be held largely responsible for the rapid and complete eradication of smallpox infection from the world by 1977.

Biochemistry

Arthur Harden was appointed as Chemist in 1897. Eduard Buchner had made a great advance by decomposing sugar with juice extracted from yeast, thereby showing, contrary to current belief, that living cells were not necessary for fermentation. In 1906 Harden published his evidence that one of the enzymes responsible for this effect was inactive unless a small-molecular substance was also present in the juice. This was the first demonstration of a 'co-enzyme', an outstanding discovery for which Harden was later awarded a Nobel Prize.

Robert Robison succeeded Arthur Harden in 1921 as Head of the Department of Biochemistry. At first he was concerned with further unravelling the processes of phosphorylation in yeast fermentation but changed his investigation to a brilliant study of calcification in bone. James Gulland made an early study of the structure of nucleotides that make up the nucleic acid in cells and Alexander Todd completed a brilliant synthesis of vitamins B

(thiamine) and E. The second World War, in 1939, brought this outstanding output of biochemistry to an end and when Robert Robison died in 1941 Walter Morgan, who had joined the Department in 1938, changed from his studies on bacterial antigens to the nature of the substances on human red cells that were responsible for their blood group character and which, at that time, were unknown components on the cell surface. These became important components of cells and tissues which played a part in the development of the medical practice of blood transfusion so urgently needed at that time. The substances were identified as novel glycoproteins and their composition and structure were identified. Winifred Watkins became Head of the Department in 1968 following Professor Morgan's retirement. She developed an hypothesis on the gene control of the formation of these inherited products and suggested that they were primary gene products. She established that they were enzymes and termed them glycosyltransferases. These fundamental studies at the molecular level explained the known immunological changes that occur as a result of the modification of carbohydrate surface structures during development and the transformation of normal to malignant cells.

RLM Syngé joined the department in 1944 and studied gramicidins and related dipeptides and in 1949 James Baddiley investigated the active substances known as co-enzymes. The synthesis of a co-enzyme A and pyridoxal phosphate was completed and their outstanding importance in normal biosynthetic reactions was elucidated and contributed to a deeper understanding of the work of the Nutritional Division of the Institute under Dame Harriette Chick.

Biophysics and Blood Products

In 1936 the Biophysics Laboratory was built and equipped, through the generosity of the Rockefeller Foundation, with an analytical ultracentrifuge and apparatus for electrophoretic studies, the first instruments of their kind in Britain. They were used for characterising the *vaccinia* viruses, the polysaccharide capsular substance of the *pneumococcus*, the proteins of human serum in health and disease, and antitoxic horse globulins. The technical facilities of the biophysics laboratory proved to be crucial in 1939-45, when the demand for blood transfusions was met by devising a method of providing plasma as a substitute for whole blood. In Ralph Kekwick's hands this method was later refined into a system for the separation and purification of a number of the clinically useful

proteins of human plasma. This activity for the production of blood products was the beginning of an undertaking largely due to Alan Drury who, on succeeding to the Directorship of the Institute in 1943, brought with him war-time experience with the Medical Research Council of the organisation of emergency blood supplies and the production of dried blood plasma. Under his guidance, plasma fractionation began in 1944, and in 1946 he was responsible for attaching the MRC Blood Group Reference Laboratory and the MRC Blood Group Research Unit to the Institute.

After the war the increasing demand by clinicians for blood products led to the establishment, in consultation with the Medical Research Council, of the Blood Products Laboratory on the Elstree estate. Here plasma was harvested from blood collected at the blood transfusion centres of the National Health Service and the products distributed for clinical use. Among the products were whole plasma, freeze-dried in a stable form; albumin; fibrinogen and thrombin for use in surgery; gamma globulin for the prophylaxis of measles and other infective diseases; and factor VIII for haemophiliacs. The antihæmophilic factor from a human source was the first of its kind to be made available in any country for the treatment of hæmophilia.

When the reorganisation of the Institute took place at the end of 1979/early 1980, responsibility for the Blood Products Laboratory was passed to the Secretary of State for Health, and the work continues at Elstree at a unit named The Bio Products Laboratory, which comes under the control of The Central Blood Laboratories Authority.

RECENT TIMES

To complete the historical record (albeit with some unavoidable duplication) the following notes amplify references to recent activities contained in the introductory article.

Professor Albert Neuberger was appointed Chairman of the Governing Body in 1970. During the previous decade the Institute had not been in a strong financial position. Investment income was being eroded by inflation, and the Medicines Act 1968, requiring the complete refurbishing of production laboratories, was to affect all vaccine manufacturers and would have resulted in intolerably heavy expenditure on the buildings at Elstree, the main source of income. Moreover, competition in the sale of vaccines for human use was

increasing rapidly, mainly from manufacturers abroad. From 1964 to 1975 great efforts were made by Sir Charles Dodds and Professor Albert Neuberger and by Sir Ashley Miles and Professor Walter Morgan to obtain financial support from government, the MRC and from private foundations. These efforts were unsuccessful and the Governing Body reluctantly decided to close the Chelsea laboratories in December 1975 and the vaccines and sera laboratories at Elstree in June 1978. Shortly afterwards, the administrative responsibility for the Blood Products Laboratory at Elstree was transferred to the

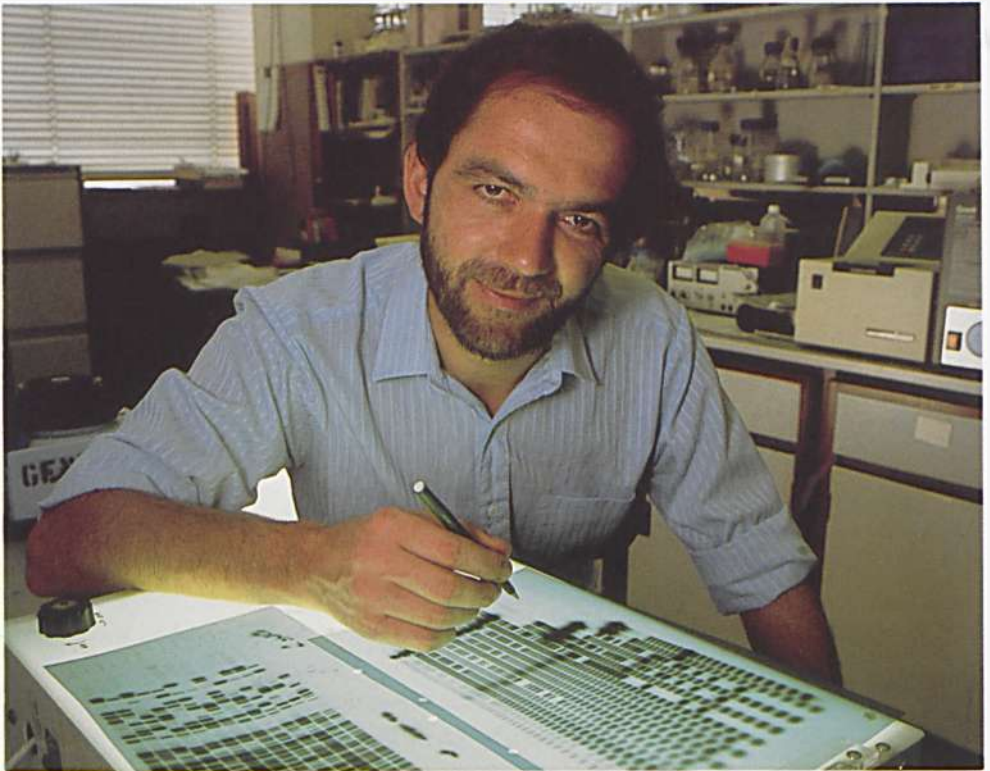


Mr Gordon Roderick, Field Marshal the Lord Bramall, and Professor Geoffrey Dawes, on the occasion of the presentation of the Queen's Award for Technological Achievement 1990 at the Royal Society of Medicine in June 1990.

Department of Health and, later, the Institute's registered office moved from Elstree, Hertfordshire, to a site in the grounds of the Royal National Orthopaedic Hospital, Stanmore, Middlesex.

The Governing Body decided to dispose of its assets, the most valuable being the Chelsea Road buildings, and to set up a scheme for the support of post-doctoral biomedical research in universities and other institutions throughout the United Kingdom. The Lister Institute Research Fellowship scheme enables young post-doctoral research scientists to carry out full-time research in university departments of their choice. The fellowships run for five years and may be extended in certain circumstances. The scope of research carried out by present Institute Fellows can be seen on pages 13 to 15 of this booklet. The Institute's constitution was amended in 1982 and the Council disbanded, all members continuing to serve as

Members of the Institute, including the representatives of universities, Royal Colleges and the BMA. A Scientific Advisory Committee was set up under the chairmanship of Professor Geoffrey Dawes, and the first five Lister Institute post-doctoral research fellows were appointed from 1 October 1982. They included Dr Alec J Jeffreys of the University of Leicester. In 1984 Alec Jeffreys, at that time Reader in Genetics at the University of Leicester, discovered that no two people (apart from identical twins) have the same DNA "fingerprint". It was at once seen that this invention could be used to test paternity and to detect criminals from blood, hair, semen and other samples left at the scene of a crime. The Institute immediately took out world-wide patents and in June 1986 entered into an Agreement with ICI for the commercial development of DNA "fingerprinting" in return for royalties, to be shared with Dr Jeffreys and Leicester University. In 1986 the Governing Body was



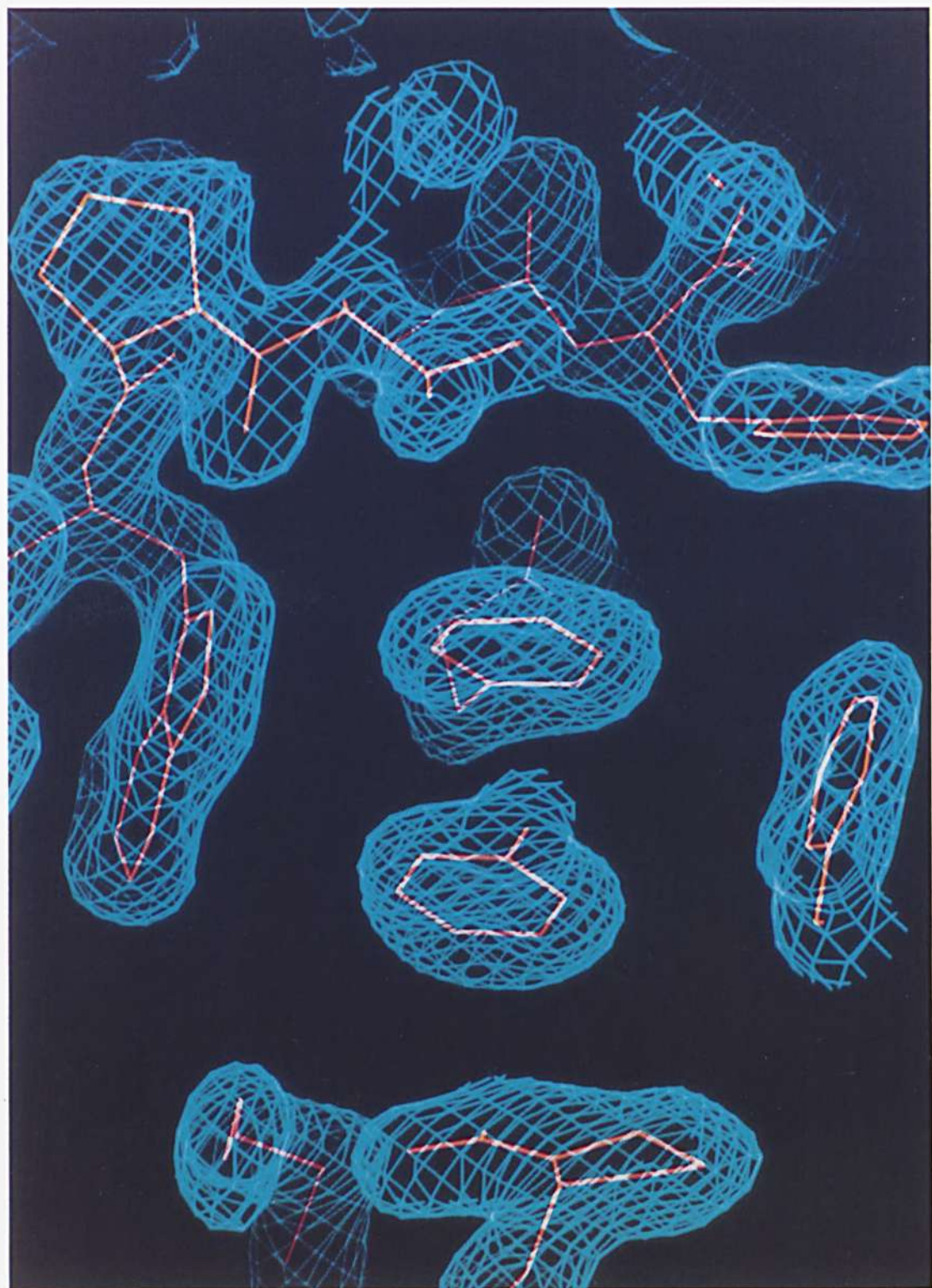
Professor Alec Jeffreys at work in his laboratory

pleased to learn that Alec Jeffreys became the first Institute Fellow to be elected a Fellow of the Royal Society, and in 1987 ICI Cellmark Diagnostics was set up as a new business at Abingdon, Berkshire, to exploit the DNA "fingerprinting" invention.

Meantime, a very successful fellowship weekend meeting was held in 1985 at St John's College, Cambridge. All the fellows attended, together with Governors, members of the Scientific Advisory Committee and Members of the Institute. These fellowship meetings are now an annual event in the Institute's calendar and are held either at Oxford or Cambridge.

Professor Neuberger retired from the Governing Body in June 1988, and was succeeded by Professor Geoffrey Dawes who had successfully chaired the Scientific Advisory Committee since its inception. There have been 40 Fellows of whom 24 are currently in post. Nine Fellows have been appointed to professorial chairs, almost 25 per cent of the total, seven past and present Fellows are women and eight medically qualified. The Institute has recently appointed another four Fellows from 1 October 1991 and each bears the title 'Lister Institute Centenary Research Fellow'. It is the Institute's intention to continue the Fellowship scheme, whilst seeking always to effect improvements in the light of experience.

In 1990 (the Silver Jubilee of the Queen's Award) the Institute was granted the Queen's Award for Technological Achievement for the development of genetic "fingerprinting". It was awarded jointly to the Institute and ICI Cellmark Diagnostics in recognition of the work done to develop, patent and exploit Alec Jeffreys' invention. The technique is described in the award as being extensively used to examine family relationships, in paternity disputes where the results give a certainty of 99.99 per cent and as being used regularly in forensic case work for identifying individuals from biological samples left at the scene of a crime. The presentation to the Institute in the presence of Fellows, staff, members of the Governing Body and Scientific Advisory Committee and Members of the Institute, was made by the Lord Lieutenant of Greater London, Field Marshal the Lord Bramall, KG, GCB, OBE, MC, JP. Mr Gordon Roderick, Mr David Hobson and Professor Alec Jeffreys, in recognition of their part in winning the Queen's Award, were presented to the Queen at a Reception at Buckingham Palace in February 1991.



The molecular structure of a protein superimposed on its high resolution electron density image determined following an X-ray crystallographic analysis. The picture illustrates the application of advanced technology in modern scientific research towards understanding the molecular basis of disease processes.

HISTORICAL NOTES 1891-1991

CHAIRMEN OF GOVERNORS

- 1891 – 1903 Sir Joseph (later Lord) Lister, PC, OM, FRS
Chairman of the Founding Committee, and from 1898 Chairman of the Governing Body (President of the Institute from 1903 to 1911)
- 1903 – 1913 Sir Henry E Roscoe, PC, FRS
- 1913 – 1915 Sir John Rose Bradford, KCMG, FRS
- 1915 Sir Henry E Roscoe, PC, FRS
- 1916 – 1931 Major General Sir David Bruce, KCB, FRS
- 1931 – 1941 Professor William Bulloch, FRS
- 1942 – 1961 Sir Henry H Dale, OM, GBE, FRS
- 1961 – 1968 Professor Sir Charles Dodds, MVO, FRS
- 1968 – 1970 Professor Sir Lindor Brown, CBE, FRS
- 1970 – 1988 Professor Albert Neuberger, CBE, FRS
- 1988 – Professor Geoffrey S Dawes, CBE, FRS

FORMER DIRECTORS

- 1903 – 1930 Sir Charles Martin, CMG, FRS
- 1930 – 1942 Sir John Ledingham, CMG, FRS
- 1943 – 1952 Sir Alan Drury, CBE, FRS
- 1952 – 1971 Sir Ashley Miles, CBE, FRS
- 1971 – 1972 Professor David Evans, CBE, FRS
- 1972 – 1975 Professor Walter Morgan, CBE, FRS

EVENTS

- 25 July 1891 Institute incorporated as The British Institute of Preventive Medicine
- 1893 Purchase of the Chelsea site for laboratory
Amalgamated with the College of State Medicine, 101 Great Russell Street, which became the temporary home of the Institute
- 1893 – 1896 Dr M Armand Ruffer as Hon Secretary and interim Director
- 1894 Establishment of the Serum Department at Sudbury, Middlesex
Therapeutic diphtheria antitoxin produced (the first in the UK)
Early researches included
- the testing of mallein and tuberculin in animals
 - work on the ringworm organism
 - the chemical analysis of various samples of ice cream
 - an enquiry for Derbyshire County Council into an alleged outbreak of hydrophobia
 - the preparation of antitoxins
 - the examination of water and water supplies

- 1894 Evening classes in bacteriology started
Courses continued in Chemistry and Physics for the Diploma in Public Health
- 1896 – 1903 Dr Allen MacFadyen as Hon Secretary and interim Director
- 1898 Donation of £250,000 from the first Earl of Iveagh
Name changed to The Jenner Institute of Preventive Medicine, on accepting donations raised during the Jenner centenary, 1896
First stage of the Chelsea site completed
Work of the Institute transferred from 101 Great Russell Street to Chelsea
- 1902 Purchase of the Elstree estate
- 1903 Name changed to The Lister Institute of Preventive Medicine
Serum Department moved from Sudbury to Elstree
Lord Lister, having retired from chairmanship, became President (holding office until his death in 1911)
- 1905 Institute admitted as a School of the University of London
The rat flea proved by the India Plague Commission, under Sir Charles Martin, to be the carrier of bubonic plague
- 1906 The Colonial Office endowed a Chair of Protozoology which continued until the first World War (1915)
- 1908 Investigations into the circumstances attending accidents in deep sea diving concluded, and the investigation for the Royal Commission on Mines also completed, and published
- 1913 Proposal that the Lister Institute should form the core of a new National Institute of Medical Research
- 1914 General Meeting of Members of the Institute rejected proposal to amalgamate with the Medical Research Council (MRC)
- 1914 – 1918 Many of the staff joined the forces during the First World War; the remainder continued in work of national importance
- 1919 Lord Iveagh resigned from the Governing Body, assigning his place and responsibilities to the Rt Hon Walter Guinness MP (later Lord Moyne)
- 1919 – 1921 A team including Dr (later Dame) Harriette Chick from the Lister Institute collaborated with the MRC in work on rickets and scurvy among the peoples of central Europe and established that vitamin D deficiency was the cause of rickets
- 7 Oct 1927 Death of Lord Iveagh
- 1929 Professor (later Sir) Arthur Harden, Head of the Biochemistry Department, awarded the Nobel Prize in Chemistry for his researches on alcoholic fermentation
- 1936 The first ultracentrifuge in the UK installed in the Biophysics department for work by Dr A S McFarlane on viruses and proteins
- 1938 Dr (later Professor) Walter Morgan's fundamental studies on bacterial antigens demonstrated for the first time that a bacterial endotoxin was a conjugate of protein and lipopolysaccharide
Dr Emmy Klieneberger-Nobel made the important discovery of filterable forms (L forms) of bacteria of the pleuropneumonia group
- 1939 – 1945 World War II. Apart from those serving in the Forces, the staff were engaged in work of national importance
- 1940 Work on the bacillus of gas gangrene by Drs Marjorie Macfarlane and B C J G Knight led to the first identification of a bacterial exotoxin as an enzyme

- 1940 & 1941 Bombing of Chelsea site
- 1940 – 1965 Pioneering work by Drs Walter Morgan and Winifred Watkins on the biochemistry of the antigens associated with the classical ABO blood group system culminated with the establishment of the chemical structures, and proposals for the genetic control of the biosynthesis, of these biologically important characters
- 1944 The MRC established a unit for research into blood plasma that was eventually to develop into the Blood Products Laboratory, Elstree
Death of Lord Moyne; 2nd Earl of Iveagh inherited his rights of nomination to the Governing Body
- 1947 The ether precipitation method developed by Drs Ralph Kekwick and Margaret Mackay was found to be suitable for large scale production of human immunoglobulins for therapeutic use
- 1947 – 1975 The MRC's Blood Group Unit, newly set up under the direction of Dr Rob Race, was accommodated at the Institute. This Unit remained until 1975 and Drs Race and Ruth Sanger were to receive much international acclaim for their pioneering work in the field of human blood group genetics
The Blood Group Reference Laboratory of the Ministry of Health, under the direction of Dr Arthur Mourant, was also housed at the Institute. This Unit supplied essential blood grouping sera to the National Transfusion Service and Dr Mourant's research activities made valuable contributions to human anthropology
- 1949 – 1955 Dr James Baddiley and his colleagues made a series of seminal contributions to the chemistry of nucleotides, including the first chemical synthesis of adenosine triphosphate (ATP) and studies on the structure of co-enzyme A
- 1951 – 1954 Dr (later Professor) Leslie Collier, whilst at Elstree, produced a freeze-dried smallpox vaccine which gave 100 per cent successful vaccinations after storage at 45°C for two years. It thus became possible for vaccines of this type to be used in the Middle East and Africa, leading by October 1977 to the eradication of smallpox from the world
- 1953 Department of Experimental Pathology re-established as Professor Miles' own department
Guinness-Lister Unit established through the generosity of Arthur Guinness Son and Company. This unit played a predominant role in the development of microbial genetics in the UK
- 1963 A new professorial Chair – the Guinness Chair of Microbiology – established
- 1964 A gift of an electron microscope received from the Trustees of the Fleming Memorial Fund for Medical Research
- 1964 – 1975 Several unsuccessful efforts made to obtain financial support from the government, the MRC and private foundations
- 1968 – 1971 New buildings constructed on Chelsea site. Substantial grant towards their cost received from the Wolfson Foundation; the lecture theatre a gift from the Grocers' Company
- Dec 1975 Closure of the Chelsea Laboratories
- June 1978 Closure of Vaccines and Sera Laboratories, Elstree
- 1979 Sale of the Elstree site
Administrative responsibility for the Blood Products Laboratories transferred to the Department of Health (via NW Thames Regional Health Authority)
- 1980 Sale of the Chelsea site
Three-year research grants awarded to several senior former members of staff

- 1980 In consultation with the Wolfson Foundation, substantial Lister-Wolfson grants given by the Institute to two applicants to the Foundation for research into motor neurone disease
- 1981 – 1982 Institute transformed from an organisation supporting research in its own laboratories to a grant-giving body supporting post-doctoral research in biomedicine
 Memorandum and Articles of Association amended
 Council disbanded, all members continuing to serve as Members of the Institute, including the representatives of Universities, Royal Colleges, BMA etc
 Scientific Advisory Committee set up under the chairmanship of Professor Geoffrey Dawes
- October 1982 First five Lister Institute Post-Doctoral Research Fellows appointed:
 Dr Judith P Armitage, University College London
 Dr G Marius Clore, NIMR, Mill Hill
 Dr Alec J Jeffreys, University of Leicester
 Dr Sai-Kit Alex Law, University of Oxford
 Dr Stephen J Perkins, Kennedy Institute of Rheumatology, London
- 1984 Dr (later Professor) Alec Jeffreys, one of the Institute's Research Fellows and, at the time, Reader in Genetics at the University of Leicester, discovered that no two people (apart from identical twins) have the same DNA "fingerprint". This invention is used to test paternity and to detect criminals from blood, hair, semen and other samples left at the scene of a crime
 Patents, world-wide, taken out by the Institute
- 1985 Annual Fellowship Weekend Meetings started, the first at St John's College, Cambridge attended by all 15 Fellows, together with Governors, Members of the Scientific Advisory Committee and Institute Members.
- 1986 Entered into Agreement with ICI for the exploitation of DNA "fingerprinting" in return for royalties. Royalties received by the Institute to be shared with Dr Jeffreys and Leicester University
 Dr Alec Jeffreys became the first Institute Fellow to be elected a Fellow of the Royal Society
- 1987 ICI Cellmark Diagnostics set up at Abingdon to exploit the DNA "fingerprinting" invention
 Dedication of a plaque at the London School of Hygiene & Tropical Medicine to commemorate the Institute's contribution on the tenth anniversary of the eradication of smallpox from the world
- 1988 Sir James Gowans elected Chairman of the Scientific Advisory Committee in place of Professor Geoffrey Dawes
- 1989 Dr Anne L McLaren elected Chairman of the Scientific Advisory Committee in place of Sir James Gowans who was appointed the first Secretary General of the Human Frontier Service Programme, centred in Strasbourg
- 1990 Institute granted The Queen's Award for Technological Achievement 1990. Presentation at the Royal Society of Medicine by the Lord Lieutenant of Greater London, Field Marshal the Lord Bramall
- 20 Feb 1991 Presentation to the Queen at Buckingham Palace of Mr Gordon Roderick, Mr David Hobson and Professor Alec Jeffreys representing the Institute as winners of the Queen's Award for Technological Achievement, 1990
- 25 July 1991 Centenary Dinner held at The Royal College of Surgeons, Lincoln's Inn Fields, London

It is appropriate to record at this point the Institute's gratitude to Coopers and Lybrand Deloitte (formerly Cooper Brothers & Co) and Coutts and Co for a century of professional excellence and support. The opportunity is also taken to pay a special tribute to Macfarlanes and Robert Fleming for their advice and help during the last two decades.

ACKNOWLEDGEMENTS

In compiling this booklet, Gordon Roderick obtained much of the early history from 'War on Disease' written by Harriette Chick *et al* and from the 75th Anniversary booklet prepared by Professor Ralph Kekwick and the late Professor Sir Ashley Miles. He is grateful to Professor Walter Morgan, Dr Winifred Watkins, Mr Edward Guinness and Olivia Timbs for their additions to the text, and to Mrs Freda Richards for her assistance throughout.

The background illustration on page 3 is derived from an electron micrograph of *E coli* bacteria containing enzyme inclusion bodies after protein engineering and is kindly supplied by Dr James Crabbe, Department of Microbiology, University of Reading.

The photograph on page 4 of Sir Joseph (later Lord) Lister is kindly supplied by Dr Roy Batt and reproduced by courtesy of The Royal Veterinary College, London.

The photograph on page 7 of Sir James Whitehead is reproduced by permission of Guildhall Library, City of London.

The illustration on page 9 of the first Earl of Iveagh is from a painting by Sir Arthur Stockdale Cope RP, RA, and is reproduced by kind permission of the Earl of Iveagh.

The illustration on page 16 is kindly supplied by Dr D J P Ferguson of the Nuffield Department of Pathology, University of Oxford.

The background illustration on page 19 is derived from a scanning electron micrograph by Peter Young, of the head of the mosquito *Culex quinquefasciatus* and is kindly supplied by Dr Paul Eggleston of the Liverpool School of Tropical Medicine and is reproduced by kind permission of The Royal Entomological Society.

The photograph on page 23 is by Anthony Lister.

The photograph on page 24 is by Anita Corbin and John O'Grady / copyright: The British Council 1989.

The illustration on page 26 is kindly supplied by Dr David Rice of the Department of Molecular Biology and Biotechnology, University of Sheffield.

The illustration on page 31 is from an electron micrograph of a *Plasmodium falciparum* infected red blood cell adhering to an endothelial cell, and is also supplied by Dr D J P Ferguson of Oxford.

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

Centenary Dinner

25 July 1991



DINNER
to commemorate the Centenary
of the Founding of the Institute
on 25 July 1891

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND
LINCOLN'S INN FIELDS
LONDON

THURSDAY 25 JULY 1991

Chairman for the Evening
PROFESSOR GEOFFREY S DAWES, CBE, FRS
Chairman of the Governing Body

GRACE

*

LOYAL TOAST

*

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

Proposed by
BARONESS HOOPER
Parliamentary Under Secretary of State, Department of Health

Response by
PROFESSOR GEOFFREY S DAWES, CBE, FRS

PROFESSOR MAXIME SCHWARTZ, DSc
Director, The Pasteur Institute, Paris

*

THE GUESTS

Proposed by
C EDWARD GUINNESS, ESQ, CVO

Response by
ALDERMAN SIR HUGH BIDWELL, GBE
Representing the Rt Hon The Lord Mayor of London

Roulade de Saumon Fumé Balmoral

*

Crème de Cressons

*

Magret de Caneton à la Grecque

Brocolis au Beurre

Haricots Verts

Pommes Chateaux

*

Tarte aux Mirabelles

*

Sélection de Fromages Variés

*

Café

Petits Fours

Chablis AC 1989 Domaine de la Paulière
St Joseph 1986/8 Cave de St Désirat Rhône
Port, Brandy, Malt Whisky



THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

Brockley Hill Stanmore Middlesex HA7 4JD

ACCOUNTS

for the year ended 31 December

1991



THE GOVERNING BODY

Professor G S Dawes, CBE, DM, FRCP, FRS, *Chairman*

D C Hobson, CBE, MA, FCA, *Hon Treasurer*

Professor H J Evans, PhD, FRSE

C E Guinness, CVO

The Rt Hon the Earl of Iveagh

Professor Sir Hans Kornberg, MA, DSc, FRS

Professor Dame June K Lloyd, MD, FRCP

Dr Anne L McLaren, MA, DPhil, FRCOG, FRS

Professor D K Peters, MB, BCh, FRCP

Dr A Robertson, CBE, PhD

G T Sammons, CBE, MA

Professor Anne E Warner, PhD, FRS (appointed as Royal Society representative July 1991)

Clerk to the Governors G J Roderick, BCom

FINANCIAL REPORT OF THE GOVERNING BODY

for the year ended 31 December 1991

The Institute is a company limited by guarantee and has charitable status.

The Governing Body presents the accounts of the Institute for the year ended 31 December 1991.

Results

The results of the Institute for the year ended 31 December 1991 are set out on page 4. The surplus for the financial year is £349,000 compared with a surplus of £730,000 in 1990. The decrease is primarily due to a fall in interest rates in 1991. The value of the Institute's investments increased by £1.8 million during the year.

Principal activities

The income of the Institute is utilised to support medical research.

Future operations

It is expected that from October 1992 a further five Fellowships will be awarded, making a total (after taking resignations into account) of 25, each normally for a period of five years.

Governing Body

The members of the Governing Body who served at any time during 1991 are shown on page 1.

Auditor

A resolution to reappoint Coopers & Lybrand as auditor will be proposed at the General Meeting. Until 1 June 1992 the firm practised in the name of Coopers & Lybrand Deloitte.

G S DAWES
Chairman
16 June 1992

AUDITOR'S REPORT

to the Members of The Lister Institute of Preventive Medicine

We have audited the accounts set out on pages 4 to 11 in accordance with Auditing Standards.

In our opinion the accounts give a true and fair view of the state of affairs of the Institute at 31 December 1991 and of its results and source and application of funds for the year then ended and have been properly prepared in accordance with the Companies Act 1985.

COOPERS & LYBRAND
Chartered Accountants and Registered Auditor

London, 16 June 1992

INCOME AND EXPENDITURE ACCOUNT

for the year ended 31 December 1991

	Notes	1991 £'000	1990 £'000
Income from fixed asset investments	2	654	514
Interest receivable		709	1,062
Other income	3	63	94
		<u>1,426</u>	<u>1,670</u>
Administrative expenses:			
Salaries	4	98	90
Pension costs	11	75	62
Investment management fees		48	47
Other	5	86	45
		<u>(307)</u>	<u>(244)</u>
		1,119	1,426
Grants	6	<u>(770)</u>	<u>(696)</u>
Surplus for the year		<u>349</u>	<u>730</u>
Balance of general fund at beginning of year		15,481	16,185
Movement in value of fixed asset investments	13	1,839	(1,434)
Surplus for the year		<u>349</u>	<u>730</u>
Balance of general fund at end of year		<u>17,669</u>	<u>15,481</u>

The notes set out on pages 7 to 11 form part of these accounts.
Auditor's report page 3.

BALANCE SHEET

at 31 December 1991

	Notes	1991 £'000	1990 £'000
Fixed assets:			
Tangible assets	7	4	4
Investments	8	15,035	10,120
		<u>15,039</u>	<u>10,124</u>
Current assets:			
Debtors	9	163	156
Cash at bank and in hand		4,052	6,777
		<u>4,215</u>	<u>6,933</u>
Creditors:			
amounts falling due within one year	10	(376)	(363)
Net current assets		<u>3,839</u>	<u>6,570</u>
Total assets less current liabilities		<u>18,878</u>	<u>16,694</u>
Provision for liabilities	11	(416)	(431)
		<u>18,462</u>	<u>16,263</u>
<i>represented by:</i>			
Capital and Funds:			
Capital fund	12	793	782
General fund	13	17,669	15,481
		<u>18,462</u>	<u>16,263</u>

These accounts were approved by the Governing Body on 16 June 1992.

G S DAWES	Members of the
D C HOBSON	Governing Body

The notes set out on pages 7 to 11 form part of these accounts.
Auditor's report page 3.

STATEMENT OF SOURCE AND APPLICATION OF FUNDS

for the year ended 31 December 1991

	1991 £'000	1990 £'000
Source of funds:		
Surplus for the financial year	349	730
Adjustment for items not involving the movement of funds:		
Pension provision	(15)	(14)
Depreciation	—	1
Total funds from operations	<u>334</u>	<u>717</u>
Funds from other sources:		
Donations	11	21
Sale proceeds of fixed asset investments	2,602	865
	<u>2,613</u>	<u>886</u>
Total source of funds	<u>2,947</u>	<u>1,603</u>
Application of funds:		
Purchase of fixed asset investments	(5,678)	(2,447)
	<u>(2,731)</u>	<u>(844)</u>
Increase/(Decrease) in working capital:		
Increase in debtors	7	86
(Increase) in creditors	(13)	(49)
	<u>(6)</u>	<u>37</u>
Movement in net liquid funds:		
Cash at bank and in hand	(2,725)	(881)
	<u>(2,731)</u>	<u>(844)</u>

The notes set out on pages 7 to 11 form part of these accounts.

Auditor's report page 3.

NOTES TO THE ACCOUNTS

for the year ended 31 December 1991

1 Principal accounting policies

The accounts have been prepared in accordance with applicable Accounting Standards in the United Kingdom. A summary of the more important accounting policies is set out below.

(a) Basis of accounting

The financial assets are prepared in accordance with the historical cost convention modified by the revaluation of investments.

(b) Tangible fixed assets

Tangible fixed assets are stated at their purchase price, together with any incidental expenses of acquisition. Provision for depreciation is made so as to write off the cost of tangible fixed assets on a straight line basis over the expected useful life of the fixed assets concerned. The principal annual rate used for this purpose is:
Temporary buildings 6 ²/₃%

(c) Investments

Investments are shown at market value in the balance sheet. Changes in the market value are included in the general fund in the year in which they arise.

(d) Investment income

Credit is taken for income from fixed asset investments on a cash received basis except that for gilt-edged securities which is accrued. Investment income is shown net of irrecoverable foreign withholding tax.

(e) Royalties

Royalties are accounted for on an accruals basis.

(f) Foreign currency transactions

Transactions are translated into sterling at the exchange rate ruling on the date of the transaction. Investments held at the year-end are valued at year-end rates of exchange.

(g) Donations

Donations received are credited direct to the Capital Fund.

(h) Supplementary pensions

Provision is made in the accounts for the total estimated future supplementary pension payments, discounted to reflect the timing of the payments. This represents the estimated amount that would have to be invested, were the supplementary pensions to be separately funded ("the notional investment").

The amount charged to the income and expenditure account reflects a return on the notional investment shown in the accounts.

The provision for future supplementary pension costs and the charge to the income and expenditure account are calculated every three years by an independent professionally qualified actuary. In the intervening years the actuary reviews the appropriateness of the provision and charge to income. Any surplus or deficiency in the provision is recognised immediately.

The provision and charge to income have been calculated on the basis of an actuarial valuation as at 1 January 1989, using the following main assumptions:

- the number of persons to whom supplementary pensions are paid will not increase significantly
- the return on the notional investment will exceed the rate of increase in supplementary pensions by 3.5% per annum.

The capital cost of ex-gratia pensions granted is recognised in full in the income and expenditure account of the year in which the pensions are granted.

2 Income from fixed asset investments

	1991	1990
	£'000	£'000
Listed investments	<u>654</u>	<u>514</u>

3 Other income

	1991	1990
	£'000	£'000
Royalty income	103	137
Share of royalties payable to third parties	(41)	(43)
Other	<u>1</u>	<u>-</u>
	<u>63</u>	<u>94</u>

The royalties relate to the DNA probe which is being marketed by a licensee. Income in 1990 included £47,000 of backdated royalties due to a change in the royalty agreement during the year.

4 (a) Emoluments of members of the Governing Body

No member of the Governing Body received any emoluments in respect of services to the Institute during the year (1990 - nil).

(b) Employee information

The average number of persons employed by the Institute during the year was three (1990 - three), all of whom were employed in an administrative capacity.

(c) Salaries

	1991	1990
	£'000	£'000
Gross salaries	89	82
Employer's national insurance and state pension contributions	<u>9</u>	<u>8</u>
	<u>98</u>	<u>90</u>

5 Other administrative expenses

	1991	1990
	£'000	£'000
Office expenses	7	7
Audit fee	6	5
Professional fees	3	3
Travel expenses	19	18
General expenses (including centenary celebrations)	49	9
Depreciation	-	1
DNA probe expenses	<u>2</u>	<u>2</u>
	<u>86</u>	<u>45</u>

6 Grants

These represent amounts approved for disbursement to the Institute's Research Fellows and other grantees in respect of the year ended 31 December 1991.

7 Tangible fixed assetsTemporary
buildings
£'000**Cost**At 1 January 1991 and 31 December 1991 8**Depreciation**

At 1 January 1991 4

Charge for year —At 31 December 1991 4

Net book value

At 31 December 1991 4

Net book value

At 31 December 1990 4**8 Investments****Basis of valuation**

Listed investments are valued at middle market quotations ruling at the year end.

Movement during the year

£'000

Market value at 1 January 1991 10,120

Purchases during the year at cost 5,678

Proceeds of sales during the year (2,602)

Changes in market valuation 1,839Market value at 31 December 1991 15,035

The historical cost of investments at 31 December 1991 is £10,598,000 (1990 – £7,353,000).

9 Debtors

	1991 £'000	1990 £'000
Prepayments and accrued income	121	87
Other debtors	<u>42</u>	<u>69</u>
	<u>163</u>	<u>156</u>

**10 Creditors:
amounts falling due
within one year**

	1991 £'000	1990 £'000
Accruals	372	359
Other creditors including taxation and social security	<u>4</u>	<u>4</u>
	<u>376</u>	<u>363</u>

11 Provision for liabilities and charges

(a) This represents a provision for future supplementary pension payments. Supplementary pensions were being paid in respect of 37 ex-employees at 31 December 1991 (1990-39), based on their salaries and length of service. The supplementary pensions are unfunded, with payments made out of the Institute's funds as they fall due. No commitment has been made to increase the future supplementary pension payments, this being entirely at the discretion of the members of the Governing Body.

(b) Movements in the provision during the year were as follows:

	1991 £'000	1990 £'000
Provision at beginning of year	431	445
Transfer from income and expenditure account	75	62
Pensions paid	(77)	(64)
Cost of ex-gratia pension granted	(13)	(12)
Provision at end of year	<u>416</u>	<u>431</u>

12 Capital Fund

	1991 £'000	1990 £'000
Donations and endowments have been received to date from:		
Dr Ludwig Mond (1893)	2	2
Berridge Trustees (1893-1898)	46	46
Worshipful Company of Grocers (1894 and 1969-1973)	15	15
Lord Iveagh (1900)	250	250
Lord Lister's Bequest (1913-1923)	19	19
William Henry Clarke Bequest (1923-1926)	7	7
Rockefeller Foundation (1935-1936)	3	3
Wolfson Foundation (1969-1973)	300	300
Jenner Memorial Studentship Fund (1984)	48	48
Professor William Bullock Bequest (1990)	6	6
Other donations and legacies (1891-1990)	71	71
Centenary donations: Coopers & Lybrand Deloitte	5	5
Guinness plc	5	5
ICI plc	5	5
Worshipful Company of Grocers	5	-
Coutts & Co	5	-
MacFarlanes	1	-
	<u>793</u>	<u>782</u>

13 General fund

	Realised £'000	Unrealised £'000	Total £'000
Balance at beginning of year	12,714	2,767	15,481
Movement in value of fixed asset investments	170	1,669	1,839
Surplus for the year	349	-	349
Total	<u>13,233</u>	<u>4,436</u>	<u>17,669</u>

14 Financial commitments

The Institute is committed to paying the salaries and expenses of the present 23 Research Fellows (1990 – 26) over the remainder of their fellowship period (maximum 5 years). The amounts involved, excluding any allowance for future inflation or salary regrading, are as follows:

	1991	1990
	£'000	£'000
Payable within one year	716	697
Payable between two to five years	<u>1,628</u>	<u>1,340</u>
	<u>2,344</u>	<u>2,037</u>

In addition to the above commitments, it is the Institute's intention to award five new Fellowships annually (each for a period of five years) for the foreseeable future.

Auditor's report page 3.

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

Brockley Hill Stanmore Middlesex HA7 4JD

REPORT OF THE GOVERNING BODY 1992



THE GOVERNING BODY

Professor G S Dawes, CBE, DM, FRCP, FRS, *Chairman*

D C Hobson, CBE, MA, FCA, *Hon Treasurer*

Professor H J Evans, PhD, FRSE

C E Guinness, CVO

The Rt Hon the Earl of Iveagh

Professor Sir Hans Kornberg, MA, DSc, FRS

Professor Dame June K Lloyd, MD, FRCP

Dr Anne L McLaren, MA, DPhil, FRCOG, FRS

Professor D K Peters, MB, BCh, FRCP

Dr A Robertson, CBE, PhD

G T Sammons, CBE, MA

Professor Anne E Warner, PhD, FRS (appointed as Royal Society representative July 1991)

Secretary, and Clerk to the Governors G J Roderick, BCom

Solicitors

Macfarlanes
10 Norwich Street
London EC4A 1BD

Auditor

Coopers & Lybrand
Plumtree Court
London EC4A 4HT

SCIENTIFIC ADVISORY COMMITTEE

Dr Anne L McLaren, MA, DPhil, FRCOG, FRS *Chairman*

Professor S Gordon, MB, ChB

Professor A J Jeffreys, DPhil, FRS (appointed July 1991)

Professor P J Lachmann, ScD, FRCP, FRS

Professor K Murray, PhD, FRS

Professor D K Peters, MB, BCh, FRCP

Professor Anne E Warner, PhD, FRS

Dr M J Crumpton, CBE, PhD, FRS, retired in June 1991

ANNUAL GENERAL MEETING 16 JUNE 1992

REPORT OF THE GOVERNING BODY

Governing Body

The Governing Body has much pleasure in recording that the honour of Commander of the Order of the British Empire was conferred on Mr David Hobson in the Queen's Birthday Honours of 1991 and on Mr Geoffrey Sammons in the New Year Honours of 1992, and wishes to convey its congratulations to both Governors.

The Governors also congratulate Dr Anne L McLaren, who was The Royal Society's representative on the Governing Body, on her appointment as Foreign Secretary of The Royal Society. Her appointment has resulted in her resignation from the Governing Body as Royal Society nominee but the Governors were pleased to be able to co-opt her so that she remains a member. The Governors are also pleased to welcome Professor Anne E Warner, who has been a member of the Scientific Advisory Committee since June 1987, as the representative of The Royal Society from July 1991, in place of Dr McLaren.

Scientific Advisory Committee

The Governing Body also records with great pleasure that the honour of Commander of the Order of the British Empire was conferred on Dr Michael J Crumpton in the New Year Honours of 1992 and wishes to convey its congratulations to Dr Crumpton. The Governors are confident that the Members would wish to thank Dr Crumpton, who has retired by rotation, for his outstanding contribution to the work of the Scientific Advisory Committee. The Governing Body is pleased that Professor Alec J Jeffreys, FRS, Wolfson Professor of The Royal Society, has accepted their invitation to succeed Dr Crumpton.

Institute Membership

We report the resignation from Membership of the Surgeon-General and of Professor Guy G Meynell, a former member of staff.

We are pleased to report the election to Membership of Professor Alec J Jeffreys, FRS, who was a Lister Institute Research Fellow from the scheme's inception on 1 October 1982 to 30 September 1991, when he took up his appointment as Royal Society Wolfson Professor.

Institute's Centenary

The Institute's centenary fell on 25 July 1991 and on that day a three-page Special Report on the history of the Institute and on its current activities appeared in *The Times*. A copy of the Report is enclosed. On that evening, members of the Governing Body and of the Institute, Fellows, scientific colleagues from universities and other learned bodies and other guests with their spouses attended a dinner at The Royal College of Surgeons. There were 166 guests. The Chairman for the evening was Professor Geoffrey S Dawes, CBE, FRS, chairman of the Governing Body, and the chief guests were Baroness Hooper of Liverpool and of St James's in the City of Westminster, Parliamentary Under Secretary of State, Department of Health, Alderman Sir Hugh Bidwell, representing the Lord Mayor of London, Lord Iveagh, member of the Governing Body and grandson of the Institute's main benefactor, and Professor Maxime Schwartz, Director of the Pasteur Institute, Paris. Also present were Lord and Lady Butterfield, Lady Emma Guinness, Professor Sir David Phillips, Sir David and Lady Innes Williams and Sir John and Lady Smith.

Baroness Hooper, who proposed the Toast to the Institute, said that the Institute, which was the first medical research institute in this country, has had some remarkable achievements during the last one hundred years, such as developing the first diphtheria antitoxin to be made and used in Britain, the successful introduction of freeze-dried smallpox vaccine which had such an impact on the eradication of the disease and the discovery by a Fellow of the Institute of genetic fingerprinting which is now used world-wide. She had been pleased to learn that the Institute had recently received formal recognition for DNA genetic fingerprinting by gaining a Queen's Award for Technological Achievement. Baroness Hooper also referred to the Institute's work in the human vaccines field.

In his response, Professor Dawes thanked the Minister for her most kind remarks about the Institute and her good wishes for its future. He said that the present happy state of the Institute owed much to the shrewd management of his predecessor, Albert Neuberger, who had steered it through a difficult period in the 1970s and for which we were all most grateful. Referring to our Fellows, Professor Dawes mentioned that a quarter of them have achieved the distinction of becoming professors within the eight years or so since the fellowship scheme was started. It was particularly pleasing that several of these had been promoted to research chairs in which they will for some years be protected from the distraction of teaching and administration and could concentrate more on research, a welcome development in the universities.

The Governing Body had been particularly pleased that Professor Maxime Schwartz, Director of the Pasteur Institute in Paris, had accepted the invitation to attend the centenary dinner because the Lister Institute had been fashioned on the Pasteur Institute. As Professor

Schwartz had prepared such an interesting talk to follow the Chairman's response to Baroness Hooper's Toast, we have decided to reproduce it in full:

It is a great honour for me, and a great pleasure, to celebrate in such distinguished company the centenary of the Lister Institute of Preventive Medicine.

Being the only non-British here tonight, it almost looks as if I had to be the witness of all the benefits that the "outside world" gained from the works of Joseph Lister and the Institute he founded. However, this would be a formidable task. By introducing antisepsis and asepsis in surgery and medicine, Joseph Lister saved innumerable lives.

In fact, I trust that what is expected from me is not to represent the non-British world, but rather to remind this honourable audience of events which happened a little more than one century ago, when Joseph Lister and Louis Pasteur were colleagues and friends.

Louis Pasteur first heard of Joseph Lister in 1871. He was then deeply involved in the study of fermentation, and was particularly interested in the so called "diseases" which recurrently occurred in the making of beer. During the summer of 1871 he decided to visit the breweries of London which happened to be confronted with this type of problem. He crossed the Channel with his microscope and at once demonstrated the presence of contaminating micro-organisms in the fermentation media. He suggested that the brewers buy their own microscope, and thus rendered a significant service to the beer industry in this country.

While he was in London, Pasteur had a conversation with the great physicist, John Tyndall, who told him that in Edinburgh a surgeon named Lister was applying his discoveries with great success, and that Lister was already imitated by many other doctors and surgeons in London.

How could it be that a doctor would be applying Pasteur's discoveries when Pasteur himself had not yet started to work on infectious diseases, except for his then recent and limited studies on the diseases of silkworms?

Since the beginning of his career Joseph Lister had wanted to reduce the very high incidence of diseases and deaths which followed surgery. In 1865 he learnt of the work of Pasteur on fermentation, of his demonstration of the role of micro-organisms in the putrefaction of organic matter, and of his refutation of all experiments intended to prove the occurrence of spontaneous generation. For Lister this was a revelation. He immediately concluded that open wounds could be contaminated by micro-organisms from the environment, perhaps airborne micro-organisms, the existence of which had been demonstrated by Pasteur, and that

these micro-organisms could initiate a process akin to putrefaction. Hence the idea of treating the wounds with compounds, such as phenol, which would kill contaminating micro-organisms – this was antiseptics – and then, more simply to clean and sterilize anything which was to come in contact with the wounds – this was asepsis.

Curiously, even though Pasteur first heard about Lister in 1871, the two men did not establish direct contact before 1874 when Joseph Lister sent a now famous letter to Pasteur. In this letter Lister says:

“I do not know whether the records of British Surgery ever meet your eye. If so, you will have seen from time to time notices of the antiseptic system of treatment, which I have been labouring for the last nine years to bring to perfection.

“Allow me to take this opportunity to tender you my most cordial thanks for having, by your brilliant researches, demonstrated to me the truth of the germ theory of putrefaction, and thus furnished me with the principle upon which alone the antiseptic system can be carried out.”

This letter gave great pleasure to Pasteur. He said so in his answer to this letter, and also in letters he sent to his family and friends. He repeated it again in the talk he delivered at the International Congress of Medicine in London in 1881.

Thus Joseph Lister was the first to apply the discoveries of Pasteur to medicine. Not only did this cause great satisfaction to Pasteur but also, perhaps more importantly, it definitely encouraged him to move forward from the study of fermentation to that of infectious diseases. The demonstration by Lister that micro-organisms contaminating wounds could cause infections was a major step towards what was later called the “germ theory of infectious diseases”.

Once the contact had been made between the two great scholars they became real friends, and entertained a relationship of cooperation and mutual respect. Lister closely followed the work of Pasteur on chicken cholera, on anthrax, and on rabies. He was a member of the British commission set up in 1886 to verify the efficacy of the vaccination against rabies. The conclusions were highly positive, suggesting that Pasteur’s method might be applicable to protect both human beings and animals against a variety of other viruses. This was very important for Pasteur who was then under strong attack, especially from medical doctors who could not conceive that a man who was not even a doctor – Pasteur was a chemist – would dare propose a cure against a human disease.

The mutual respect and admiration between the two men was expressed in particularly strong words during the ceremony held at the Sorbonne in Paris for the

70th birthday of Pasteur in 1892.

Many foreign delegates were present. Among them was Joseph Lister, representing the Royal Societies of London and Edinburgh.

“Monsieur Pasteur,” said Joseph Lister, “it is my great privilege to convey to you tributes, thanks and respect from all involved in medicine and surgery; it's true to say that, of all the people in the world today, medical science owes you the most.

“Your achievements have illuminated the darkest corners of surgery. Thanks to you, surgery has been changed from an uncertain process, fraught with danger and too often ending in disaster, to a well-based science. Thanks to you, there has been a complete revolution: instead of being full of terrors, surgery is full of potential; almost limitless potential!

“And Medicine owes you no less than Surgery! For centuries, infectious diseases have been shrouded, as it were, under a dark curtain. In discovering the microbial origin of disease you have raised that dark curtain! . . .

“. . . Monsieur, we are all only too aware that infectious diseases make up the vast majority of the illnesses that afflict the human race. So you see, on this important occasion, it is timely and right that Medicine and Surgery offer to you their deep respect, thanks and admiration.”

And in the final speech of the ceremony, that given by Pasteur himself, Joseph Lister was the only foreign scholar mentioned. And he was mentioned in a paragraph which may be the most moving and beautiful ever written by Pasteur. I will use it as a conclusion:

“It gives me the greatest joy to see all you delegates, who have come from so far. Your presence here shows your true friendship to France. I am utterly convinced that science and peace will triumph against ignorance and war, that nations will eventually unite not to destroy but to edify, and that the future will belong to those who have done the most for the sake of suffering humanity; to those like you, my dear Lister, and all the eminent scientists and doctors gathered here today.”

Mr Edward Guinness, a member of the Governing Body since 1969, proposed the toast to the Guests. In a very witty speech he said that as a career-long brewer he knew little about medicine unless it is accepted that “Guinness is good for you”. He had joined the Governing Body at about the same time as Professor Albert Neuberger to whom he had been happy at short notice to pay tribute on his 80th birthday. Mr Guinness said

that one hundred years is a very long and honourable achievement – only slightly longer in fact than Walter Morgan's whose 90th birthday we had celebrated with a lunch the previous year. When asked on that occasion whether, if he had known that he was going to live to be over 90, he would have conducted his life differently, Walter Morgan replied "Yes, I could have taken much better care of myself". Mr Guinness remarked on the curious fact that, if a rabid dog had not bitten James Jackson, who had looked after horses on the Elvedon Estate of Lord Iveagh's grandfather in 1896, his lordship's initial lukewarm enthusiasm would never have turned to the passion which resulted in his £250,000 donation, nor would the link with the Pasteur Institute in Paris have been formed. In welcoming the guests, Mr Guinness referred to good friends of long standing, Sir Hugh and Lady Bidwell. He said that in November last Sir Hugh and Lady Bidwell had completed a most memorable year at the Mansion House and that they had supported the Residential Care Home of the Wine and Spirit Trade's Benevolent Society, the Queen Elizabeth Foundation for the Disabled and several other charities. It was appropriate too that Sir Hugh along with Dr Paul Massey, a member of the Institute, is a Past-Master of the Grocers' Company with which the Lister Institute has had a most valuable connection throughout the last one hundred years.

In his response to the toast, Alderman Sir Hugh Bidwell expressed his pleasure at having the delightful task of responding once again to Mr Guinness. He said that Mr Guinness' commitment to the Lister Institute over 22 years and to many other charities is an outstanding example to all present, and never has the need for charitable support been so great. He also thanked the Guinness family for their support of the Institute. He congratulated the Institute on receiving the Queen's Award for Technological Achievement in 1990. He commented extensively on London as a world centre, referring to the 500 foreign banks in the square mile, more than in any other financial capital. He said that there were more American banks in London than in New York. He said that just as the Institute needed investment to carry out its vital research work so did London need investment in transport and in infrastructure generally. He expressed pride in his predecessor, Sir James Whitehead, Lord Mayor of London in 1889, and of the part played by the Grocers' Company in setting up the Institute one hundred years ago.

The Oliver Memorial Fund Award

At a Reception held at The Royal Society after the Governing Body meeting on 12 November, 1991, Mr F Hanley, Chairman of the Oliver Memorial Fund, accompanied by his successor, Mr Geoffrey Berry, presented the Oliver Memorial Fund plaque to the Institute for its outstanding contribution to the science and practice of blood transfusion. This was the first occasion on which the presentation had been made to a corporate body

instead of to an individual. In his remarks, Mr Hanley said that no other body had ever been so closely involved from the very early days of blood transfusion. The Red Cross became involved at a very much later date. It was the Lister Institute and several of its scientists who advised and supported Oliver in his difficult task and who ensured the success of blood transfusion. There had been eight Institute awardees of the plaque, Dr Rob Race in 1948, Dr Arthur Mourant in 1953, Dr Bill Maycock in 1955, Professor Ralph Kekwick in 1957, Dr Winifred Watkins in 1965, Dr Elizabeth Ikin in 1968, Mr Leon Vallet in 1971 and Dr Ruth Sanger in 1973. The plaque was accepted by Professor H John Evans, acting Chairman of the Governing Body for the day. Twenty-three members of the Institute attended the Reception including three of the Oliver Memorial Fund awardees.

Research Fellowship Scheme

The Governors wish to report that:

- Professor Graham J Boulnois, Leicester University, whose fellowship ended on 30 September 1991, is now Chairman of the School of Biological Sciences at Leicester and is taking over as Dean of the Faculty of Science this year.
- Professor Dennis R Burton, Sheffield University, whose fellowship ended on 30 September 1991, has been appointed a member of the Scripps Research Institute, La Jolla, California.
- Dr Paul Eggleston, Liverpool University, has been granted an extension of three years to 30 September 1995.
- Professor Barry V L Potter, Bath University, has been granted an extension of three years to 30 September 1995.
- Dr Wolf Reik, AFRC, Babraham, Cambridge, has been granted an extension of one year to 30 September 1993.
- Dr David W Rice, Sheffield University, has been appointed to serve on the MRC Cell Board Committee B for four years from 1 September 1991.
- Dr Geoffrey L Smith, Sir William Dunn School of Pathology, Oxford, has been elected the 1992 Fleming Lecturer of the Society for General Microbiology.
- Dr Penny Stein, Cambridge University, has been granted an additional year's leave of absence for training in crystallography at the University of Alberta to 30 September 1993.
- Dr Claude M Wischik, Cambridge University, has been granted an extension of one further year to 30 September 1993.

The Governors warmly congratulate:

- Dr Bernard A Connolly, Southampton University, on his promotion to Senior Lecturer at Southampton on 1 January 1991 and to Professor of Biochemistry at the University of Newcastle upon Tyne, where he will be employed as a research professor, on 1 January 1992.
- Dr Keith R Fox, Southampton University, on his promotion to Senior Lecturer from 1 October 1992.
- Dr Steven J Homans, Dundee University, on his promotion to Senior Lecturer from 1 October 1992.
- Dr Malcolm A McCrae, Warwick University, a fellow from 1 October 1984 to 30 September 1990, on his appointment to a personal chair in Virology in the Department of Biological Sciences, University of Warwick on 1 October 1991.
- Dr David B G Oliveira, Addenbrooke's Hospital, Cambridge, on his promotion to honorary consultant from 1 October 1991.
- Dr Stephen J Yeaman, Newcastle upon Tyne University, a fellow from October 1984 to September 1989, on his appointment to Professor of Molecular Enzymology in the Department of Biochemistry and Genetics.

The following Fellows completed their fellowships on 30 September 1991:

- Dr Ian J Jackson, MRC Human Genetics Unit, Edinburgh,
- Professor Alec J Jeffreys, Leicester University,
- Dr J Simon Kroll, John Radcliffe Hospital, Oxford.

The Fellowship Weekend at Fitzwilliam College, Cambridge, in September 1991 was another successful event. The next meeting will again be held at Fitzwilliam College on 11 and 12 September 1992.

The number of applications for fellowships to start from 1 October 1992 was 67 as against 55 in 1991. Included in the 67 applications were 25 women (9 in 1991) and 13 from medically qualified candidates, including clinicians (10 in 1991). The Scientific Advisory Committee short-listed thirteen candidates and interviewed all of them. I am sure that the highest standard of our research fellows continues to be maintained, the candidates offered fellowships being:

<i>Name</i>	<i>Place where research will be carried out</i>	<i>Title of research proposal</i>
Dr Catherine A BOULTER	Department of Genetics, University of Cambridge.	Molecular analysis of development in normal and cystic kidneys.
Dr Gwyn W GOULD	Department of Biochemistry, University of Glasgow	Targeting of glucose transporters to subcellular compartments: implications for insulin-stimulated glucose transport.
Dr Allan E HERBISON **	Department of Neuroendocrinology, AFRC Institute of Animal Physiology and Genetics Research, Babraham.	Gonadal steroid-brain interactions and reproduction.
Dr Kieran KIRK	Laboratory of Physiology, University of Oxford.	Characterization of a novel channel in the membrane of malaria-infected erythrocytes.
Dr Colin W TAYLOR	Department of Pharmacology, University of Cambridge.	Receptor regulation of complex calcium signals.

** Dr A E Herbison was placed first in order of merit by the Committee and was therefore elected Lister Institute-Jenner Research Fellow.

I welcome the opportunity to thank David Hobson for his skilled oversight of our finances in a difficult year with recession and political uncertainty. And it is timely to mention the excellent work of our secretary, Gordon Roderick, for his forethought in planning the Centenary Review and Dinner as well as the annual meetings of the Institute and of the Fellows.

Geoffrey S Dawes
Chairman

The Times
25 July 1991

**Special Report to commemorate
the Institute's Centenary**

(Facsimile reprint)

How plagues became a thing of the past

Many of the most important advances in world health during the past 100 years have been largely the work of the Lister Institute of Preventive Medicine, now celebrating its centenary. The celebrations should be shared by some of the poorest countries, where the toll of such diseases as cholera, typhoid and diphtheria would be even heavier but for the Lister's contributions to prevention and treatment.

When the history of 20th century medicine is complete, perhaps the biggest triumph to be recorded will be the eradication of smallpox. The colossal exercise carried out by the World Health Organisation (WHO), culminating in the last naturally occurring case being detected in October 1977, owed some of its success to the Lister.

Such a victory could not have been foreseen during the 1880s, when some of the city fathers of London decided to set up a research centre to match the Pasteur Institute, which had opened in Paris and was looked on with envy by British doctors.

The Lord Mayor, Sir James Whitehead, had been to see the Pasteur Institute. He determined that anything Paris could do, London could do at least as well. Plans were drawn up, £60,000 was raised, and in July 1891 the Lister Institute opened in Chelsea, west London. It was named, appro-

The Lister, which celebrates its centenary this month, now provides £750,000 for projects every year, Thomson Prentice writes

riately, after Joseph Lister. If Louis Pasteur was the hero of French medical science, Lister was his British counterpart. Pasteur, born in 1822, was one of the founders of bacteriology. Lister, born in 1827, was the first to develop antiseptics, a life-saving advance of immeasurable value in preventive medicine.

The institute was, and remains, dedicated to preventive medicine. A hundred years ago, there were few answers to the plagues of measles, smallpox, cholera and typhoid, which were common in many parts of Victorian Britain.

The institute quickly became a magnet for some of the most talented, determined and ambitious researchers of the day. One of their first challenges was diphtheria, a common cause of childhood deaths and a scourge in London. The bacterium had been identified but it was the work of Sir Marc Ruffer, the institute's first director, that led to the development in Britain of a diphtheria anti-toxin.

The institute's existence was not universally welcomed in the early years. Its neighbours in Chelsea

wanted it closed because they saw it as a breeding ground for germs that might escape. Anti-vivisectionists alleged it was a centre for barbarous experiments on animals. However, the Lister's reputation for progress in public health rose rapidly and dwarfed such prejudices. It continued to gain in stature after the turn of the century, drawing scientists from many countries, who wanted to develop their skills in its laboratories.

Dame Harriette Chick, the first woman on the staff, was an expert in diseases caused by vitamin deficiencies, especially rickets in children. Sir Macfarlane Burnet, an Australian virologist, worked at the Lister in the Twenties. He was the first to show that there were several types of polio virus and was awarded the Nobel prize for medicine in 1960.

Dr Emmy Klieneberger-Nobel was a pioneer in research into mycoplasmas, micro-organisms that are causative agents in human, animal and plant diseases. She arrived at the institute in the

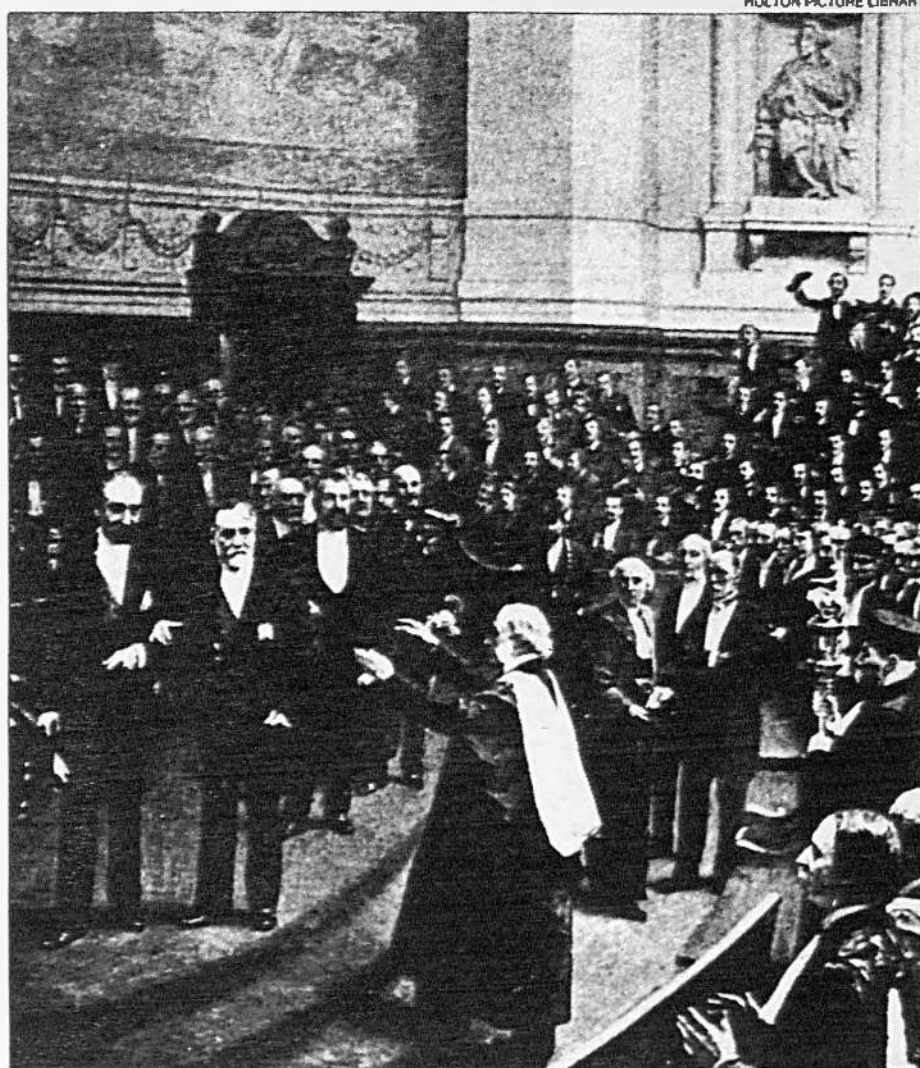
Thirties, having fled from Nazi Germany.

In the Fifties, Lister researchers, led by Leslie Collier, a bacteriologist, discovered how to freeze-dry smallpox vaccine, allowing it to be transported all over the world, a vital contribution to the WHO's eradication programme.

The Lister's Chelsea laboratories were closed in 1975 because their grants were exhausted. However, the property's value was such that the Lister was able to invest the proceeds from the sale and use them to fund research projects in universities and other establishments throughout Britain. Funding now is £750,000 a year.

The Lister exists today only as an administrative office in Stanmore, north London. As an influence on medical research, however, it is ubiquitous.

"We are proud that we were the very first such centre in Britain," says Gordon Roderick, its secretary. "We were in business 30 years before the Medical Research Council and we have a unique list of achievements stretching back 100 years. Now we have great confidence in some of the brilliant young scientists whose work we are supporting. They are like members of a family to us, and we hold reunions with them to catch up on their progress, exchange ideas and share in some of the excitement of their ideas."



Great men meet: Lister receives honours at the Sorbonne, with white-bearded Pasteur in attendance



Gordon Roderick: "We made more productive use of our money"

Scientists and grocers unite in the cause

How the institute that aims to prevent disease chooses its experts

A MEMBERSHIP of 65, a governing body of 12, a scientific advisory committee and a paid staff of three make up the Lister Institute of Preventive Medicine. By any standards, that is a small group for an organisation that gives away nearly £750,000 a year in research grants.

The management structure stems from 1975, when the governors gave up the Lister laboratories. "We thought we could use our money more productively, research-wise," says Gordon Roderick, the governors' secretary and clerk. The governors decided to invest the institute's assets and fund post-doctoral research. The institute was set up by a

council representing various universities, royal colleges and the British Medical Association. Thus, it has representative members from the universities of Cambridge, Dublin, Edinburgh, London, Manchester and Oxford. The BMA, the royal colleges of physicians, surgeons and veterinary surgeons, the Royal Society, the Royal Agricultural Society and the Worshipful Company of Grocers are members.

Why grocers? Mr Roderick explains: "When the appeal for funds was launched in 1889-90, the Company of Grocers was very

generous, so we invited it to become a member. Then in 1969-70, we were putting up a new building and it paid for the lecture hall, which was called the Grocers' Theatre. It is very good to us."

Every governor becomes and may remain a member, as do senior members of staff. Scientific committee members are eligible after 12 months, but only at the governors' invitation. Members meet once a year, at the June annual meeting. The membership elects six of the governors, who retire by rotation after six years, although all are eligible for re-

election until the age of 75. Of the remaining governors, one is nominated by Lord Iveagh, the descendant of an original benefactor, and one by the Royal Society, and four are co-opted by the governors. Governors — eminent, unpaid volunteers — meet three or four times a year under Professor Geoffrey Dawes's chairmanship.

The governors elect the scientific committee of six members plus a chairman, who serve for six years and interview potential fellows. These are outstanding in their fields and most are fellows of the Royal Society.

David Hobson, the treasurer, has served on the governing body for six years. He is a retired senior partner of Coopers & Lybrand Deloitte, the Lister's auditors, and as the chairman of the managers is at the hub of the financing. His job is "making sure we have enough money to pay for our fellowships and that our investments are properly managed".

PAT BLAIR

● Sponsors of this report: Coopers & Lybrand Deloitte, Coutts & Co, Guinness plc, ICI Cellmark Diagnostics, the Worshipful Company of Grocers.

Best wishes

Coopers & Lybrand Deloitte, one of the UK's leading firms of accountants and management consultants, is proud to have been associated with The Lister Institute of Preventive Medicine as auditors for its first hundred years, and wish it continuing success for the next hundred.

Coopers & Lybrand Deloitte
Plumtree Court
London EC4A 4HT

Coopers
& Lybrand
Deloitte

Solutions
for Business

GUINNESS PLC

Congratulates the
Lister Institute
on
one hundred years
of achievement

Covers that help to save lives

Pearce Wright traces the history of drapes, now vital equipment for the surgeon



Today: in this operation, to keep everything free from infection, drapes cover all parts of the body except the area where microsurgery is performed

To most people drapes mean heavy window or theatre curtains. For surgeons they have a special significance, because they form one of the primary barriers to prevent potentially lethal infections in their patients' wounds.

Doctors are seen in soap operas scrubbing up with anti-septic soap before donning sterile gowns and gloves, the surgeon's instruments are boiled or dry-heated in a steriliser to kill bacteria, and heat-sensitive materials are kept in germicidal solutions. Equally strict measures are applied to the third barrier against infection. This barrier consists of the drapes, or fabrics, designed in various shapes and sizes to cover the patient, exposing just the area where the surgeon is to operate.

Drapes must be bacteria-resistant, absorbent, strong and soft, and easy to handle, wash and sterilise. For decades they have been made from linen. Now, materials technologists at medical suppliers such as Smith & Nephew have produced new disposable fabrics with even better characteristics.

Although made from different materials, drapes are descended directly from an

invention 125 years ago by Joseph Lister, the architect of modern surgery.

Lister discovered the principles and established the practice of scientific cleanliness when he conceived the idea of antiseptics, which makes surgery safe.

As extraordinary as it may seem now, the introduction of

antiseptics was a bitterly fought battle. Lister was compelled to leave Glasgow for Edinburgh because of his outspokenness about conditions in the public wards. He succeeded his father-in-law, James Syme, as the professor of clinical surgery at Edinburgh. However, stimulated by the published

papers, others followed in Lister's footsteps in applying the principles of antiseptics. The battle was a quarrel between two generations. The younger side was laying the foundations of a scientific approach to medicine, with the inevitable undermining of an older view of the clinical art. The old guard still clung to notions of spontaneous gener-

ation to explain the complications of surgery and the origin of life forms.

As more and more lives were saved by aseptic surgery, the outcome of the dispute was inevitable. Lister was applauded by grateful patients, including Queen Victoria, academically rewarded by his medical colleagues and recognised by a grateful nation with a baronetcy in 1897.

He was influenced strongly by his father, a wine merchant by trade, but a formidable microscopist, who invented the achromatic lens and improved the compound microscope, eliminating optical distortion so that minute objects could be seen more clearly.

Similarly, Lister paid generous tribute to the support of his wife, who assisted in his experiments. Yet he became one of the last defenders of the medical profession against female marauders.

The history of science and technology contains a number of giants who are household names: Newton, Watt, Marconi and Einstein. In contrast, people are less familiar with the names of the physicians responsible for the great advances in medicine. Perhaps they know of Hippocrates and his reputed oath, Fleming for penicillin and Barnard for heart transplants. Certainly Lister is one of the great names.

Yet the greatest single medical discovery of all time came from a chemist, Louis Pasteur. From his discoveries about the way micro-organisms controlled fermentation, he devel-

oped the germ theory of disease and the idea of the spread of infections.

Lister's story is equally well known. He was appointed the professor of surgery in Glasgow in 1860 and set out to solve the most urgent, perennial surgical problem, the sepsis that ravaged the crowded wards of the voluntary hospitals.

At the time nobody knew why so many people died from post-operative complications, especially after amputations and the treatment of compound fractures.

Lister was following Pasteur's work. He understood the staggering implications of the germ theory for controlling disease. He deduced that the tragic complications of surgical operations and accidents were caused by microbes flourishing in devitalised tissues, and that these microbes could be prevented from having their deadly effect by the use of chemical solutions called antiseptics.

These deductions showed Lister that chemical disinfection should be introduced into the operating theatre and that the dressings used for covering the wounds should also be impregnated.

In 1865, an 11-year-old boy, James Greenless, was the first of 11 victims of compound fractures to whom Lister applied his chemical principles of antiseptic medicine. The procedures provoked a storm of controversy when the operations were described in *The Lancet* in 1867.

Dog bite brought in research funds

A grateful Guinness is remembered for giving £250,000 to the institute

THE future of the Lister Institute for Preventive Medicine was secured because a 19th century groom was bitten by a rabid dog.

The stableman, Jim Jackson, worked at Elvedon House, in Suffolk, for the Guinness family, which founded the Dublin brewery. However, Jackson had to go to Paris for his treatment, to the Pasteur Institute, which at the time was doing research into hydrophobia.

The groom subsequently lived to be 89 and the incident was not forgotten by Edward Cecil Guinness, afterwards the first Earl of Iveagh.

When the London-based Lister Institute for Preventive Medicine made an appeal for funds two years later, Guinness thought back to his groom's experience and made the £250,000 endowment that in 1898 assured the establishment of an annual income of £7,000 for medical research in Britain.

For Guinness to make such a generous gift was entirely in character. Guinness was born in Dublin in 1847 and had taken an interest in his native city and its people from his youth.

Moreover, as Guinness lived for much of the time at Elvedon, England also benefited from his generosity.

In 1889, he withdrew from the immediate management of the Arthur Guinness, Son &

Co brewery, although he remained as the chairman. He marked the event by giving £50,000 to Dublin and £200,000 to London for housing to be built at rents within reach of the very poor.

Soon afterwards, Dublin received another £250,000 for workmen's dwellings.

The result was, as the obituary in *The Times* reported after Lord Iveagh's death in 1927, "perhaps the greatest of all benefits which he conferred on Dublin". The obituary explained: "It meant the clearing of an insanitary area of more than seven acres in the heart of the city."

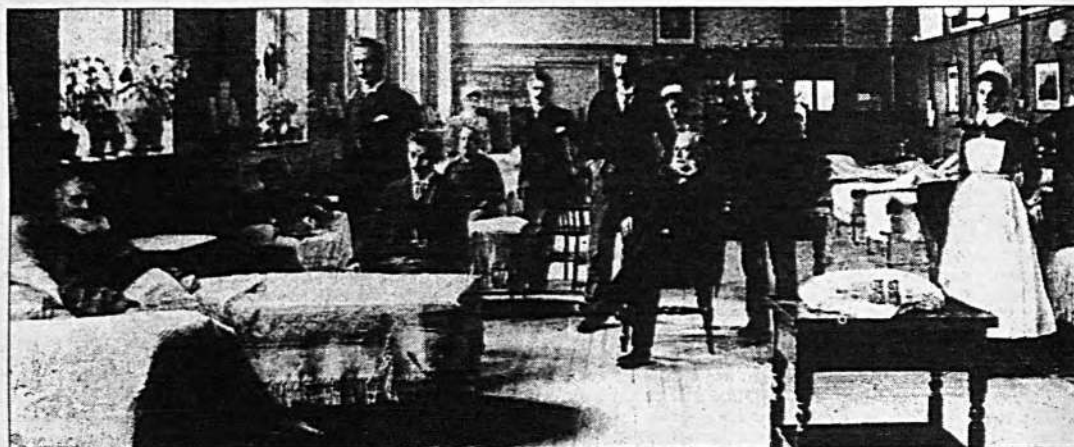
Lord Iveagh equipped, sent out and maintained the Irish field hospital during the South African war. Whether it was in private homes, hospitals or educational and research institutions, Lord Iveagh was renowned as a philanthropist. However, *The Times* reported that he was "the most modest of men".

Today, the family maintains its interest in and connection with the Lister Institute.

Lord Iveagh, the first earl's great-grandson, has chosen to take up a nominated seat on the governing body, while Lord Iveagh's cousin, Edward Guinness, has been an elected governor for more than 20 years.

PAT BLAIR

HULTON PICTURE LIBRARY



Yesterday: Lister, who made safe surgery possible, in a ward with his assistants at King's College hospital, London



The good lord: Iveagh's patronage is continued today

1891



1991

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

in celebrating its centenary today, is proud to

acknowledge the achievements of its staff during the

last 100 years and is confident that its Senior Research

Fellows and Members will continue to keep the spirit of

the Institute alive in their pursuit of scientific excellence.

Brockley Hill,
Stanmore,
Middlesex HA7 4JD
Telephone: 081-954 6297.

We wish the Lister Institute continued success.
(On their Centenary, they're looking healthier than ever).



Head Office: 440 Strand, London WC2R 0QS. Telephone 071-753 1000

Crime-busting DNA

Field Marshal Lord Bramall called genetic fingerprinting "the greatest single breakthrough in forensic science this century". He offered his description last year when presenting the Queen's Award for Technological Achievement to the Lister Institute and to the ICI company, Cellmark Diagnostics.

Only seven years ago, Alec Jeffreys, the professor of genetics at Leicester university, developed a scientific test that can be applied to DNA, the genetic material of living cells, which is unique in every individual, and can conclusively determine family relationships and match suspects to crimes. Today, DNA or genetic fingerprinting forms the basis of a multi-million-pound industry and is used worldwide in such varied fields as paternity tests, immigration cases, criminal investigations and animal breeding confirmation.

Professor Jeffreys, then a genetics lecturer, was one of the first five fellows appointed under the Lister's scheme. The breakthrough came within two years, in September 1984. "We immediately applied for a patent in this country," recalls Gordon Roderick, the Lister's secretary. It was the first time the institute had applied for a patent.

To prevent it lapsing, a worldwide patent must be

Genetic fingerprinting has helped to convict killers. Pat Blair describes the method that won a Queen's Award

applied for within 12 months. The Lister, therefore, applied. "In the meantime we carried out market surveys in Britain and the United States to see whether it was a viable proposition, although we were sure it was," Mr Roderick says. In June 1986, the Lister signed an agreement with Cellmark Diagnostics to exploit the process. A year later the business was set up.

Police forces were among the pioneers in using the technique. They first employed it in October 1985, during the hunt in Leicestershire for Colin Pitchfork, the rapist and killer of two schoolgirls, while ownership of the process was still being established. The technique helped to clear a man who had confessed to the second of the two murders.

Then came the first mass DNA screening of 5,500 men to find the killer.

In November 1987 the Bristol rapist, Robert Melias, became the first man anywhere to be convicted through DNA matching of a semen sample on his victim's petticoat with his blood. Pitchfork's conviction came two months later.

The tests have since been used by police in many countries. Blood and semen, stained material, hair roots or tissue left at the scene of crime can provide cells for the tests.

Sophisticated microbiology techniques are used to identify the repetitive sequences within the DNA molecule that are unique to individuals. They are located using probes, small pieces of synthetic DNA, one after another, to build up the banded pattern of one person that can be read off against that of another.

According to the number of bands located, the odds against a chance match can be as high as a million million to one. Like fingerprints, they are unique. DNA profiles are accepted by Home Office immigration officers as conclusive evidence of relationships. The first case featuring DNA profiling was in immigration, in April 1985. Two months later the method was used in a paternity case. Cellmark's tests are available, at £140 a sample, to private individuals seeking to prove, or disprove, family links.

More than a year ago, Professor Jeffreys was asked to determine whether bones in a Brazilian cemetery were those of Dr Josef Mengele, the Nazi war criminal. He has extracted enough DNA from the remains but still needs to match it with blood from Mengele's son, Rolf, who has not yet agreed to give a sample.

In a scientifically similar case, enough DNA was extracted from a woman's skeleton in Cardiff to match her parents' profiles and confirm, "with 99.99 per cent certainty", the identity of Karen Price, in the "body in the carpet case". Karen had been killed and buried eight years earlier, but the DNA evidence helped to secure a murder conviction in February.

On the basis of the technique's exploitation the Lister applied jointly with Cellmark for the Queen's Award for Technological Achievement. "We were delighted to have it, thrilled to bits," Mr Roderick says. The same reaction came from Cellmark, which has the exclusive licence to exploit the Jeffreys technology and is developing the technique fast.

Previously the tests, which have to be performed sequentially, would have taken at least a month. The process has since been reduced to one or two weeks. "There is the possibility of working in days now," says David Hartshorne, Cellmark's sales and market-



On the case: Professor Jeffreys with DNA examples

ing director. Meanwhile, Professor Jeffreys is still discovering applications for DNA typing, including the possibility of setting up a DNA bank, similar to the fingerprint register used in criminal cases.

Another of the uses is in conservation biology. Professor Jeffreys says: "One major application is in the whole

area of animal, bird and plant identification, of trying to understand how animals and plants breed in the wild.

"This is of critical importance in trying to understand evolution. If you cannot identify offspring and parents in a natural population, you cannot even start.

"With this technology, one can now do that."

Pioneers in the science of prevention

Thousands of kidney patients depend on dialysis machines. Lethal impurities are cleared from their blood while they await a donor organ. Although kidney machines are among modern medicine's high-tech creations, the dialysis principle has been crucial on a smaller scale to basic research for more than a century. Nobel prize-winning experiments in biochemistry by Sir Arthur Harden, after he joined the Lister Institute in 1897, used dialysis to separate molecules in fluids.

Harden was one of many eminent scientists following in Joseph Lister's footsteps, and many others continue today. Their achievements include those of Sir Charles Martin, who led the institute's researches into the great Indian plague. The plague began before the turn of the century and by 1903 was killing 500,000 a year.

A brilliant investigation of field and laboratory experiments and epidemiology involving thousands of door-to-door enquiries eventually revealed how rats, fleas and humans were linked in the spread of plague.

The first woman on the Lister staff, Dame Harriette Chick, died recently, aged 102. Under Martin's encouragement, she began to investigate the process of disinfection by chemicals and heat. The purpose was to decide on the most effective agents and methods. The studies were a classic contribution to the young science of bacteriology and involved pioneering work on the nature of proteins and how they differed in the way they were destroyed by disinfectants.

Dame Harriette turned from bacteriology to nutrition during the first world war and became part of the team that later showed the dietary and environmental factors that could prevent the life-long crippling effect of rickets in children.

In 1951, Leslie Collier, a bacteriologist, produced a new smallpox vaccine. The preparation depended on a freeze-drying process in which the fluid containing the protective cowpox virus, the basis of the vaccine, is exposed to a vacuum that removes moisture.

Another landmark in immuno-chemistry was among Professor Walter Morgan's successes. He worked with one of the most dangerous microorganisms, the Shiga diphtheria bacillus, to show that just a portion of the cell wall was associated with an organism's virulence. Morgan unravelled a general charac-

teristic of bacteria and the infections they cause and opened a new approach to making vaccines.

Harden joined the Lister as a relatively seasoned research worker. He had graduated at Owens College, Manchester, obtained a doctorate in Germany and returned to Owens to teach, research and write textbooks for ten years.

He then became fascinated by the implications of a discovery by Eduard Buchner, a brilliant German chemist studying fermentation.

The conventional view was that the chemical processes converting sugar to alcohol were inseparable from living yeast organisms. Harden was intrigued by Buchner's discovery that a "dead" chemical extract from yeast cells could apparently stimulate fermentation of sugar into alcohol and carbon dioxide just as the intact living yeast organism would have done. The agent in the extract, or ferment, promoted the chemical changes of fermentation without changing itself.

The finding opened the door to enzyme chemistry, which was to have profound benefits for medicine.

Next, Harden used the dialysis method to discover that the yeast enzyme consisted of two parts, one smaller-molecular in nature than the other. Further tests showed the larger one was protein and the smaller one not. The results with the small molecule were the first example of a coenzyme, a small molecule not protein in nature, but necessary to the activity of an enzyme, itself as protein.

Later research elsewhere showed the vitamins necessary to life form portions of coenzymes. As enzymes are needed only in small amounts because they are catalysts, coenzymes and vitamins are needed only in small quantities. This explains why a substance may be essential but need be present in the diet in only the tiniest traces.

Harden then noticed something even more fascinating. He found that the yeast enzyme could also cause other molecules to form temporarily with sugar molecules if inorganic phosphate was added to the yeast solution. The finding was the beginning of the study of intermediary, or short-lived, compounds in living tissue, still one of biochemistry's most lively aspects of research. Harden's work revealed the role of the phosphate group of molecules in delivering energy to any part of the body when needed.

PEARCE WRIGHT



Dame Harriette



Dr Anne McLaren: "A fellowship can release university people from teaching"

Flair and originality are the key elements for applicants

Fellowships can lead to a dream fulfilled

THE Lister Institute places advertisements in October every year inviting medical scientists to apply for its fellowships. Last time, it attracted 175 enquiries and 55 subsequent applications from senior figures for the five fellowships, which last five years (Pat Blair writes).

The applications came from, among others, biochemists, geneticists, doctors and immunologists. The response showed the keen competition in the upper

reaches of Britain's research world. There have been 40 fellows since the scheme was introduced in October 1982.

Twenty-four are at present funded, and four more are due to take up appointments on October 1. The Lister undertakes to pay the fellow's salary and his or her employer's costs, plus an allowance up to £7,000 a year.

Applications must be received by the Lister by the end of January. These are sent to members of the scientific advisory committee, who compile a shortlist and interview the 12 finalists every April.

At the final selection, the choice is more between candidates than projects. "We are looking for good people with a grasp of their subject and a certain amount of flair and originality," says Dr Anne McLaren, the committee chairman.

"People may already be in university jobs, but having to do a lot of teaching. If they get a fellowship, then the university money that would have gone towards their salary can be used to take on a temporary lecturer, releasing them from the teaching element. That is quite a strong consideration in our minds."

The point is endorsed by Professor Alec Jeffreys, of Leicester university, who discovered DNA fingerprinting (see above). "My life was being increasingly devoted to teaching and administration," he says. "It was getting more difficult to carry out really intensive research."

The fellowship award freed him from those constraints. "I do not think I would ever have had the time and freedom to think sideways to get us to that sort of development," he says.

"I owe a great deal to the Lister Institute and our relationship has been very close and fruitful. It has been a superb time and I have enjoyed every minute.

"It is a marvellous organisation to be with."

Since the Lister embarked on patenting discoveries, it now shares any royalties with universities and is excited about possible future discoveries.

Gordon Roderick, the Lister's secretary, says: "We have agreements that, where our fellows have come up with an invention, and where we have asked the university to exploit it, we will get some royalty income from it."

Out of the 40 fellows elected since the introduction of the scheme in 1982, nine have been appointed to professorial chairs. They are: Alec Jeffreys, Leicester university; Barry Halliwell, King's College London; Chris Higgins, Dundee university; Graham Boulnois, Leicester university; Stephen Yeaman, Newcastle upon Tyne university; Dennis Burton, Sheffield university; Jeff Almond, from Leicester university to Reading university; Barry Potter, from Leicester university to Bath university; and Leszek Borysiewicz, from Cambridge university to the University of Wales college of medicine, Cardiff.

DNA ANALYSIS

Working together with the Lister Institute, Cellmark Diagnostics has become the World leader in DNA fingerprinting for paternity testing and forensic investigations.

Cellmark's U.K. laboratory is the only DNA testing facility in the world to be accredited with the International Quality Standard ISO9002 (BS5750).

In 1990 Cellmark Diagnostics and the Lister Institute were joint recipients of the Queen's Award for Technological Achievement.

As part of ICI's commitment to research and development in the area of healthcare, Cellmark Diagnostics is now rapidly developing a unique and advanced system for detecting carriers of the frequently fatal genetic disease, Cystic Fibrosis.

CELLMARK
DIAGNOSTICS



UNIVERSITY OF CAMBRIDGE
SCHOOL OF CLINICAL MEDICINE

The Clinical School sends
CONGRATULATIONS
to the Lister Institute
and looks forward to
continued successful
collaboration.

FLEMINGS

INVESTMENT ADVISERS
TO THE
LISTER INSTITUTE

FLEMING PRIVATE ASSET MANAGEMENT

UNIVERSITY OF LEICESTER
congratulates the
Lister Institute of Preventive Medicine
on a century of support for pioneering research

Leicester University is proud to have been awarded six
of the Institute's forty Research Fellowships:

1982	Professor Alec Jeffreys
1984	Professor Jeff Almond (now at Reading University)
1986	Professor Graham Boulnois
1987	Professor Barry Potter (now at Bath University)
1989	Dr Jennifer Rivett
1991	Dr Tony Maxwell

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

Brockley Hill Stanmore Middlesex HA7 4JD

ACCOUNTS

for the year ended 31 December

1992



THE GOVERNING BODY

Professor G S Dawes, CBE, DM, FRCP, FRCOG, FRS, *Chairman*

D C Hobson, CBE, MA, FCA, *Hon Treasurer*

Professor H J Evans, PhD, FRCPE, FRSE

C E Guinness, CVO

The Rt Hon the Earl of Iveagh (fourth Earl, elected as his own nominee 5 October 1992)

Professor Sir Hans Kornberg, MA, DSc, ScD, FRS

Professor Dame June K Lloyd, DBE, MD, FRCP, FRCPE

Dr Anne L McLaren, DBE, MA, DPhil, FRCOG, FRS

Professor Sir Keith Peters, MB, BCh, FRCP

Dr A Robertson, CBE, PhD

G T Sammons, CBE, MA

Professor Anne E Warner, PhD, FRS

Third Earl of Iveagh died on 18 June 1992

Clerk to the Governors G J Roderick, BCom

FINANCIAL REPORT OF THE GOVERNING BODY

for the year ended 31 December 1992

The Institute is a company limited by guarantee and has charitable status.

The Governing Body presents the accounts of the Institute for the year ended 31 December 1992. A separate report of the Governing Body is prepared.

Results

The results of the Institute for the year ended 31 December 1992 are set out on page 4. The surplus for the financial year is £398,000 compared with a surplus of £349,000 in 1991. The value of the Institute's investments increased by £2.3 million during the year. The increase in the surplus is primarily due to decreased costs during 1992 (1991 being the Institute's centenary).

Principal activities

The income of the Institute is utilised to support medical research.

Future operations

It is expected that from October 1993 a further five Fellowships will be awarded, making a total (after taking resignations into account) of twenty-seven, each normally for a period of five years.

Governing Body

The members of the Governing Body who served at any time during 1992 are shown on page 1.

Auditors

A resolution to reappoint Coopers & Lybrand as auditors will be proposed at the General Meeting.

G S DAWES

Chairman

21 June 1993

AUDITORS' REPORT

to the Members of The Lister Institute of Preventive Medicine

We have audited the accounts set out on pages 4 to 10 in accordance with Auditing Standards.

In our opinion the accounts give a true and fair view of the state of affairs of the Institute at 31 December 1992 and of its results for the year then ended and have been properly prepared in accordance with the Companies Act 1985.

COOPERS & LYBRAND
Chartered Accountants and Registered Auditors
London

21 June 1993

INCOME AND EXPENDITURE ACCOUNT

for the year ended 31 December 1992

	Notes	1992 £'000	1991 £'000
Income from fixed asset investments	2	1,032	654
Interest receivable		337	709
Other income	3	69	63
		<u>1,438</u>	<u>1,426</u>
Administrative expenses:			
Salaries	4	85	98
Pension costs	11	91	75
Investment management fees		52	48
Other	5	50	86
		<u>(278)</u>	<u>(307)</u>
		<u>1,160</u>	<u>1,119</u>
Grants	6	<u>(762)</u>	<u>(770)</u>
Surplus for the year		<u>398</u>	<u>349</u>
Balance of general fund at beginning of year		17,669	15,481
Movement in value of fixed asset investments	13	2,336	1,839
Surplus for the year		398	349
Balance of general fund at end of year		<u>20,403</u>	<u>17,669</u>

The notes set out on pages 6 to 10 form part of these accounts.
Auditors' report page 3.

BALANCE SHEET

at 31 December 1992

	Notes	1992 £'000	1991 £'000
Fixed assets:			
Tangible assets	7	3	4
Investments	8	18,811	15,035
		<u>18,814</u>	<u>15,039</u>
Current assets:			
Debtors	9	204	163
Cash at bank and in hand		2,941	4,052
		<u>3,145</u>	<u>4,215</u>
Creditors:			
amounts falling due within one year	10	(342)	(376)
Net current assets		<u>2,803</u>	<u>3,839</u>
Total assets less current liabilities		<u>21,617</u>	<u>18,878</u>
Provisions for liabilities and charges	11	(421)	(416)
		<u>21,196</u>	<u>18,462</u>
Capital and Funds:			
Capital fund	12	793	793
General fund	13	20,403	17,669
		<u>21,196</u>	<u>18,462</u>

These accounts were approved by the Governing Body on 21 June 1993.

G S DAWES		<i>Members of the Governing Body</i>
D C HOBSON		

The notes set out on pages 6 to 10 form part of these accounts.
Auditors' report page 3.

NOTES TO THE ACCOUNTS

for the year ended 31 December 1992

I Principal accounting policies

The accounts have been prepared in accordance with applicable Accounting Standards in the United Kingdom. A summary of the more important accounting policies is set out below.

(a) Basis of accounting

The financial assets are prepared in accordance with the historical cost convention modified by the re-valuation of investments.

(b) Tangible fixed assets

Tangible fixed assets are stated at their purchase price, together with any incidental expenses of acquisition. Provision for depreciation is made so as to write off the cost of tangible fixed assets on a straight line basis over the expected useful life of the fixed assets concerned. The principal annual rate used for this purpose is:

Temporary buildings 6²/₃%

(c) Investments

Investments are shown at market value in the balance sheet. Changes in the market value are included in the general fund in the year in which they arise.

(d) Investment income

Credit is taken for income from fixed asset investments on a cash received basis except that for gilt-edged securities which is accrued. Investment income is shown net of irrecoverable foreign withholding tax.

(e) Royalties

Royalties are accounted for on an accruals basis.

(f) Foreign currency transactions

Transactions are translated into sterling at the exchange rate ruling on the date of the transaction. Investments held at the year end are valued at year-end rates of exchange.

(g) Donations

Donations received are credited direct to the Capital Fund.

(h) Supplementary pensions

Provision is made in the accounts for the total estimated future supplementary pension payments, discounted to reflect the timing of the payments. This represents the estimated amount that would have to be invested, were the supplementary pensions to be separately funded ("the notional investment").

The amount charged to the income and expenditure account reflects a return on the notional investment shown in the accounts.

The provision for future supplementary pension costs and the charge to the income and expenditure account are calculated every three years by an independent professionally qualified actuary. In the intervening years the actuary reviews the appropriateness of the provision and charge to income. Any surplus or deficiency in the provision is recognised immediately.

The provision and charge to income have been calculated on the basis of an actuarial valuation as at 1 January 1992, using the following main assumptions:

- the number of persons to whom supplementary pensions are paid will not increase significantly;
- the return on the notional investment will be 9%;
- no increases in pensions are given.

The capital cost of ex-gratia pensions granted is recognised in full in the income and expenditure account of the year in which the pensions are granted.

2 Income from fixed asset investments

	1992	1991
	£'000	£'000
Listed investments	<u>1,032</u>	<u>654</u>

3 Other income

	1992	1991
	£'000	£'000
Royalty income	113	103
Share of royalties payable to third parties	(44)	(41)
Other	<u>-</u>	<u>1</u>
	<u>69</u>	<u>63</u>

The royalties relate to the DNA probe which is being marketed by a licensee.

4 (a) Emoluments of members of the Governing Body

No member of the Governing Body received any emoluments in respect of services to the Institute during the year (1991 - nil).

(b) Employee information

The average number of persons employed by the Institute during the year was 3 (1991 - 3), all of whom were employed in an administrative capacity.

(c) Salaries

	1992	1991
	£'000	£'000
Gross salaries	77	89
Employer's national insurance and state pension contributions	<u>8</u>	<u>9</u>
	<u>85</u>	<u>98</u>

5 Other administrative expenses

	1992	1991
	£'000	£'000
Office expenses	8	7
Audit fee	6	6
Professional fees	3	3
Travel expenses	19	19
General expenses (1991: including centenary celebrations)	10	49
Depreciation	1	-
DNA probe expenses	<u>3</u>	<u>2</u>
	<u>50</u>	<u>86</u>

6 Grants

These represent amounts approved for disbursement to the Institute's Research Fellows and other grantees in respect of the year ended 31 December 1992.

7 Tangible fixed assets

	Temporary buildings £'000
Cost	
At 1 January 1992 and 31 December 1992	<u>8</u>
Depreciation	
At 1 January 1992	4
Charge for year	<u>1</u>
At 31 December 1992	<u>5</u>
Net book value	
At 31 December 1992	<u>3</u>
At 31 December 1991	<u>4</u>

8 Investments**Basis of valuation**

Listed investments are valued at middle market quotations ruling at the year end.

Movement during the year	£'000
Market value at beginning of year	15,035
Purchases during the year at cost	3,467
Proceeds of sales during the year	(2,027)
Changes in market valuation	<u>2,336</u>
Market value at end of year	<u>18,811</u>

The historical cost of investments at 31 December 1992 was £12,395,000 (1991 – £10,598,000).

9 Debtors

	1992 £'000	1991 £'000
Prepayments and accrued income	147	121
Other debtors	<u>57</u>	<u>42</u>
	<u>204</u>	<u>163</u>

**10 Creditors:
amounts falling due
within one year**

	1992 £'000	1991 £'000
Accruals	338	372
Other creditors including taxation and social security	<u>4</u>	<u>4</u>
	<u>342</u>	<u>376</u>

11 Provision for liabilities and charges

(a) This represents a provision for future supplementary pension payments. Supplementary pensions were being paid in respect of thirty-five ex-employees at 31 December 1992 (1991 – thirty-seven), based on their salary and length of service. The supplementary pensions are unfunded, with payments made out of the Institute's funds as they fall due. To date, these supplementary pensions have been increased in line with public sector pensions, but no commitments have been made to increase the future supplementary pension payments, this being entirely at the discretion of the members of the Governing Body.

(b) Movements in the provision	1992
during the year were as follows:	£'000
Provision at beginning of year	416
Transfer from income and expenditure account	91
Pensions paid	(73)
Cost of ex-gratia pension granted	(13)
Provision at end of year	<u>421</u>

12 Capital Fund

	1992	1991
	£'000	£'000
Donations and endowments		
have been received to date from:		
Dr Ludwig Mond (1893)	2	2
Berridge Trustees (1893-1898)	46	46
Worshipful Company of Grocers (1894 and 1969-1973)	15	15
Lord Iveagh (1900)	250	250
Lord Lister's Bequest (1913-1923)	19	19
William Henry Clarke Bequest (1923-1926)	7	7
Rockefeller Foundation (1935-1936)	3	3
Wolfson Foundation (1969-1973)	300	300
Jenner Memorial Studentship Fund (1984)	48	48
Professor William Bullock Bequest (1990)	6	6
Other donations and legacies (1891-1990)	71	71
Centenary donations: Coopers & Lybrand	5	5
Guinness plc	5	5
ICI plc	5	5
Worshipful Company of Grocers	5	5
Coutts & Co	5	5
MacFarlanes	1	1
	<u>793</u>	<u>793</u>

13 General fund

	Realised	Unrealised	Total
	£'000	£'000	£'000
Balance at beginning of year	13,233	4,436	17,669
Movement in value of fixed asset investments	358	1,978	2,336
Surplus for the year	398	—	398
Balance at end of year	<u>13,989</u>	<u>6,414</u>	<u>20,403</u>

14 Financial commitments

The Institute is committed to paying the salaries and expenses of the present twenty-six Research Fellows (1991 – twenty-three) over the remainder of their fellowship period (maximum five years). The amounts involved, excluding any allowance for future inflation or salary regrading, are as follows:

	1992 £'000	1991 £'000
Payable within one year	862	716
Payable between two to five years	<u>1,801</u>	<u>1,628</u>
	<u>2,663</u>	<u>2,344</u>

In addition to the above commitments, it is the Institute's intention to award five new Fellowships annually (each for a period of five years) for the foreseeable future.

15 Capital commitments

	£'000
Capital expenditure that has been authorised by the governors, but not yet contracted for	<u>184</u>

Auditors' report page 3.

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

Brockley Hill Stanmore Middlesex HA7 4JD

REPORT OF THE GOVERNING BODY 1993



THE GOVERNING BODY

Professor G S Dawes, CBE, DM, FRCP, FRCOG, FRS, *Chairman*

D C Hobson, CBE, MA, FCA, *Hon Treasurer*

Professor H J Evans, PhD, FRCPE, FRSE

C E Guinness, CVO

The Rt Hon the Earl of Iveagh (fourth Earl, elected as his own nominee 5 October 1992)

Professor Sir Hans Kornberg, MA, DSc, ScD, FRS

Professor Dame June K Lloyd, DBE, MD, FRCP, FRCPE

Dr Anne L McLaren, DBE, MA, DPhil, FRCOG, FRS

Professor Sir Keith Peters, MB, BCh, FRCP

Dr A Robertson, CBE, PhD

G T Sammons, CBE, MA

Professor Anne E Warner, PhD, FRS

Third Earl of Iveagh died on 18 June 1992

Secretary, and Clerk to the Governors G J Roderick, BCom

Solicitors

Macfarlanes
10 Norwich Street
London EC4A 1BD

Auditors

Coopers & Lybrand
1 Embankment Place
London WC2N 6NN

SCIENTIFIC ADVISORY COMMITTEE

Dr Anne L McLaren, DBE, MA, DPhil, FRCOG, FRS, *Chairman*

Professor A J Jeffreys, DPhil, FRS

Professor A J McMichael, MB, BChir, PhD, FRCP, FRS (Appointed October 1992)

Professor K Murray, PhD FRCPath, FRSE, FRS

Professor Richard N Perham, PhD, ScD, FRS (Appointed July 1992)

Professor Sir Keith Peters, MB, BCh, FRCP

Professor Anne E Warner, PhD, FRS

Professor S Gordon, MB, ChB, retired in June 1992

Professor P J Lachmann, ScD, FRCP, FRS, retired in January 1993

ANNUAL GENERAL MEETING 21 JUNE 1993

REPORT OF THE GOVERNING BODY

Governing Body

The Governing Body reports with great regret the death of Lord Iveagh on 18 June 1992. Lord Iveagh, who was aged 55 years, had been seriously ill since February. He attended Governing Body meetings and Annual General Meetings of the Members of the Institute regularly and was closely associated with such special functions as the Institute's centenary and the celebration of the Queen's Award for Technological Achievement. His wise counsel and loyal support will be greatly missed.

The Governing Body was pleased that Lord Iveagh's son, the fourth Earl, decided to accept election to the Governing Body as his own nominee. His election is effective from 5 October 1992 and we have been pleased to see him at our meetings since that date.

The Governing Body has much pleasure in recording that the honour of Dame of the Order of the British Empire was conferred upon Dr Anne McLaren and the honour of Knighthood on Professor D Keith Peters in the New Year Honours of 1993. The Governors are also pleased that Dr McLaren has been awarded an honorary DSc by the University of Leicester.

Scientific Advisory Committee

There have been two changes during the year: Professor Siamon Gordon retired by rotation in June 1992 and Professor Peter Lachmann in January 1993. They were replaced respectively by Professor Richard N Perham, PhD, ScD, FRS, Department of Biochemistry, University of Cambridge, and Professor Andrew J McMichael, MB, BChir, PhD, FRCP, FRS, Professor of Immunology, Institute of Molecular Medicine, John Radcliffe Hospital, Oxford. The Governors thank Professors Gordon and Lachmann for their outstanding contributions to the work of the Scientific Advisory Committee during the last six years.

Reference is made to another member of the Committee, Professor Alec J Jeffreys, later in this report under the heading of Research Fellowship Scheme.

Institute Membership

We are pleased to welcome as a Member of the Institute Professor Sir James Baddiley, DSc, ScD, FRS who was a member of the Institute's staff from 1949 to 1954.

We report the resignation from Membership of Dr Ruth Lemcke.

Research Fellowship Scheme

With a view to increasing the number of clinical fellows, the Governors have decided that from 1 October 1993 six-year fellowships be offered to fellows actively pursuing clinical training (instead of the normal five-year fellowships) and that, in addition, they be allowed unpaid leave, if required during the fellowships, to enable them to be employed as Senior Registrars by a Regional or District Health Authority.

The Governors wish to report that:

- (a) Dr Anthony R Berendt, John Radcliffe Hospital, University of Oxford, has been granted one year's leave of absence without pay to enable him to accept an honorary Senior Registrarship with the Oxford Regional Health Authority from 1 October 1992,
- (b) Dr Graham J Boulnois, University of Leicester, a fellow from 1986 to 1991, left university service on 14 July 1992 on his appointment as head of Zeneca (formerly ICI) Pharmaceuticals, Biotechnology Department in Alderley Park, Cheshire,
- (c) Dr Sally Freeman, Aston University, has been awarded the 1993 Lilly Prize for Pharmaceutical Excellence,
- (d) Professor Christopher F Higgins, a fellow from 1983 to 1989, has been awarded a Howard Hughes Medical Institute International Research Scholarship from 1 January 1993,
- (e) Dr David B G Oliveira, Addenbrooke's Hospital, Cambridge, has been granted one year's extension to 31 December 1994,
- (f) Professor Barry V L Potter, University of Bath, has been awarded the degree of DSc by the University of Oxford in recognition of his published work to December 1991, and
- (g) Dr David W Rice, University of Sheffield, has been elected to serve as the MRC's representative on the Programme Management Committee on the Protein Engineering Link Programme for two years from February 1993.

The Governors warmly congratulate:

- (a) Dr J Simon Kroll, a fellow from 1986 to 1991, on his appointment to the

chair in Paediatrics and Molecular Infectious Diseases at Imperial College School of Medicine (St Mary's) from 1 October 1993,

(b) Professor Christopher F Higgins, a fellow from 1983 to 1989, on his appointment as Professor of Clinical Biochemistry, University of Oxford, from 1 October 1993,

(c) Dr Ann Burchell, on her promotion to Reader in the Department of Medicine, Ninewells Hospital, University of Dundee, on 1 October 1992,

(d) Dr Gwyn Gould, on his appointment as Senior Lecturer retrospectively from 1 July 1992,

(e) Dr Paul Eggleston, on his appointment as Senior Lecturer from 1 October 1993, and

(f) Professor Alec J Jeffreys, a fellow from 1982 to 1991 and currently a member of the Scientific Advisory Committee, on the following awards and distinctions:-

the Milano Award, 1992, in memory of Norberto Montalbetti, by the Fondazione Internazionale Biotechnologie, Milan;

a Howard Hughes Medical Institute International Research Scholarship for 1993-1998; and

an Honorary Fellowship of the Royal College of Physicians.

The following Fellows completed their fellowships:

Dr Geoffrey L Smith, Sir William Dunn School of Pathology, University of Oxford on 30 June 1992 and Dr Nicholas B La Thangue, Laboratory of Eukaryotic Molecular Genetics, National Institute for Medical Research, Mill Hill, London, on 30 September 1992.

The Fellowship Weekend at Fitzwilliam College, Cambridge, in September 1992 was another successful event. The next meeting will be held at Christ's College, Cambridge, on 10 and 11 September 1993.

The number of applications for fellowships to start from 1 October 1993 was 52 as against 67 in 1992 and 55 in 1991. It is thought that the higher than normal number of applications in 1992 arose from the publicity relating to the Institute's centenary. Included in the 52 applications this year were 13 women (25 in 1992) and only 3 medically qualified candidates, including clinicians (13 in 1992). The Scientific Advisory

Committee short-listed thirteen candidates and interviewed twelve of them. I am sure that the highest standard of our research fellows continues to be maintained, the candidates offered fellowships being:

<i>Name</i>	<i>Place where research will be carried out</i>	<i>Title of research proposal</i>
Dr Anthony R CLARKE	Department of Biochemistry, University of Bristol	The role of protein-protein interactions in the mechanisms of molecular chaperones and transcription factors.
Dr Pedro R LOWENSTEIN	Department of Physiology, University of Wales College of Cardiff	Gene therapy for human neurological disorders: therapeutic intervention in the Lesch-Nyhan syndrome.
Dr Philip A REAY	Molecular Immunology Group, Nuffield Department of Clinical Medicine, John Radcliffe Hospital, Oxford	Investigating the molecular and cellular basis of class II restricted antigen processing with T cell determinant antibodies.
Dr Ian S ROBERTS	Department of Microbiology, University of Leicester	Studies on capsule expression in <i>Escherichia coli</i> .
Dr Colin J STIRLING **	Department of Biochemistry and Molecular Biology, University of Manchester	Defining the mechanisms of membrane protein sorting in yeast.

** Dr Stirling was placed first in order of merit by the Committee and was therefore elected Lister Institute-Jenner Research Fellow.

Finally, this is an appropriate occasion to thank our Honorary Treasurer for the successful way in which he has guided our fortunes this year. In his own words, "widows and infants is how the Institute should be classified"; a no risk policy, yet under his astute management they and we have thrived. We are most grateful to the Scientific Advisory Committee for the skill with which they foretell the future of so many good candidates, not an easy job, though most instructive. Above all, I should like to thank our Secretary on your behalf. We are most grateful for the way in which he has supported all connected with the Institute, and has master-minded our affairs so skilfully and unobtrusively.

Geoffrey S Dawes
Chairman

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

Brockley Hill Stanmore Middlesex HA7 4JD

ACCOUNTS

for the year ended 31 December

1993



THE GOVERNING BODY

Professor G S Dawes, CBE, DM, FRCP, FRCOG, FRS, *Chairman*

D C Hobson, CBE, MA, FCA, *Hon Treasurer*

Professor H J Evans, PhD, FRCPE, FRSE

C E Guinness, CVO

The Rt Hon the Earl of Iveagh

Professor Sir Hans Kornberg, MA, DSc, ScD, FRS

Professor Dame June K Lloyd, DBE, MD, FRCP, FRCPE

Dr Anne L McLaren, DBE, MA, DPhil, FRCOG, FRS

Professor Sir Keith Peters, MB, BCh, FRCP

Dr A Robertson, CBE, PhD

G T Sammons, CBE, MA

Professor Anne E Warner, PhD, FRS

Clerk to the Governors G J Roderick, BCom

FINANCIAL REPORT OF THE GOVERNING BODY

for the year ended 31 December 1993

The Institute is a company limited by guarantee and has charitable status.

The Governing Body presents the accounts of the Institute for the year ended 31 December 1993. A separate report of the Governing Body is prepared.

Results

The results of the Institute for the year ended 31 December 1993 are set out on page 4. The surplus for the financial year is £107,000 compared with a surplus of £398,000 in 1992, reflecting a reduction in interest income and an increase in grants made. The value of the Institute's investments increased by £3.6 million during the year.

Principal activities

The income of the Institute is utilised to support medical research.

Future operations

It is expected that during 1994 a further five Fellowships will be awarded, making a total (after taking resignations into account) of twenty-nine, each normally for a period of five years.

Governing Body

The members of the Governing Body who served at any time during 1993 are shown on page 1.

Auditors

A resolution to reappoint Coopers & Lybrand as auditors will be proposed at the General Meeting.

G S DAWES

Chairman

6 June 1994

AUDITORS' REPORT

to the Members of The Lister Institute of Preventive Medicine

We have audited the financial statements on pages 4 to 10.

Respective responsibilities of governors and auditors.

Company law requires the governors to prepare financial statements for each financial year which give a true and fair view of the state of affairs of the Institute and of the income and expenditure of the Institute for that period. In preparing those financial statements, the governors are required to:

- (i) select suitable accounting policies and then apply them consistently;
- (ii) make judgements and estimates that are reasonable and prudent;
- (iii) state whether applicable accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements;
- (iv) prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Institute will continue in business.

The governors are responsible for keeping proper accounting records which disclose with reasonable accuracy at any time the financial position of the Institute and to enable them to ensure that the financial statements comply with the Companies Act 1985. They are also responsible for safeguarding the assets of the Institute and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

COOPERS & LYBRAND

Chartered Accountants and Registered Auditors
London

6 June 1994

Basis of opinion

We conducted our audit in accordance with Auditing Standards issued by the Auditing Practices Board. An audit includes examination, on a test basis, of evidence relevant to the amounts and disclosures in the financial statements. It also includes an assessment of the significant estimates and judgements made by the governors in the preparation of the financial statements, and of whether the accounting policies are appropriate to the Institute's circumstances, consistently applied and adequately disclosed.

We planned and performed our audit so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the financial statements are free from material misstatement whether caused by fraud or other irregularity or error. In forming our opinion we also evaluated the overall adequacy of the presentation of information in the financial statements.

Opinion

In our opinion the financial statements give a true and fair view of the state of the Institute's affairs at 31 December 1993 and of its results and total recognised gains for the year then ended and have been properly prepared in accordance with the Companies Act 1985.

INCOME AND EXPENDITURE ACCOUNT

for the year ended 31 December 1993

	Notes	1993 £'000	1992 £'000
Income from fixed asset investments	2	1,192	1,032
Interest receivable		83	337
Other income	3	60	69
		<u>1,335</u>	<u>1,438</u>
Administrative expenses:			
Salaries	4	95	98
Pension costs	11	58	78
Investment management fees		59	52
Other	5	56	50
		<u>(268)</u>	<u>(278)</u>
		1,067	1,160
Grants	6	(960)	(762)
		<u>107</u>	<u>398</u>

Statement of total recognised gains and losses for the year ended 31 December 1993

Surplus for financial year	107	398
Capital profit on investments:		
Realised gains	1,233	358
Unrealised gains	2,374	1,978
	<u>3,714</u>	<u>2,734</u>
Total recognised gains and losses for the year		
Capital and funds at beginning of year	21,196	18,462
	<u>24,910</u>	<u>21,196</u>
Capital and funds at end of year		

The notes set out on pages 6 to 10 form part of these accounts.
Auditors' report page 3.

BALANCE SHEET

at 31 December 1993

	Notes	1993 £'000	1992 £'000
Fixed assets:			
Tangible assets	7	2	3
Investments	8	24,518	18,811
		<u>24,520</u>	<u>18,814</u>
Current assets:			
Debtors	9	181	204
Cash at bank and in hand		952	2,941
		<u>1,133</u>	<u>3,145</u>
Creditors:			
amounts falling due within one year	10	(338)	(342)
		<u>795</u>	<u>2,803</u>
Net current assets		<u>25,315</u>	<u>21,617</u>
Total assets less current liabilities		<u>(405)</u>	<u>(421)</u>
Provisions for liabilities and charges	11	24,910	21,196
		<u>24,910</u>	<u>21,196</u>
Capital and Funds:			
Capital fund	12	793	793
General fund	13	24,117	20,403
		<u>24,910</u>	<u>21,196</u>

These accounts were approved by the Governing Body on 6 June 1994.

G S DAWES		Members of the
D C HOBSON		Governing Body

The notes set out on pages 6 to 10 form part of these accounts.
Auditors' report page 3.

NOTES TO THE ACCOUNTS

for the year ended 31 December 1993

I Principal accounting policies

The accounts have been prepared in accordance with applicable Accounting Standards in the United Kingdom. A summary of the more important accounting policies is set out below.

(a) Basis of accounting

The financial assets are prepared in accordance with the historical cost convention modified by the re-valuation of investments.

(b) Tangible fixed assets

Tangible fixed assets are stated at their purchase price, together with any incidental expenses of acquisition. Provision for depreciation is made so as to write off the cost of tangible fixed assets on a straight line basis over the expected useful life of the fixed assets concerned. The principal annual rate used for this purpose is:

Temporary buildings 6²/₃%

(c) Investments

Investments are shown at market value in the balance sheet. Changes in the market value are included in the general fund in the year in which they arise.

(d) Investment income

Credit is taken for income from fixed asset investments on a cash received basis except that for gilt-edged securities which is accrued. Investment income is shown net of irrecoverable foreign withholding tax.

(e) Royalties

Royalties are accounted for on an accruals basis.

(f) Foreign currency transactions

Transactions are translated into sterling at the exchange rate ruling on the date of the transaction. Investments held at the year end are valued at year-end rates of exchange.

(g) Donations

Donations received are credited direct to the Capital Fund.

(h) Supplementary pensions

Provision is made in the accounts for the total estimated future supplementary pension payments, discounted to reflect the timing of the payments. This represents the estimated amount that would have to be invested, were the supplementary pensions to be separately funded ("the notional investment").

The amount charged to the income and expenditure account reflects a return on the notional investment shown in the accounts.

The provision for future supplementary pension costs and the charge to the income and expenditure account are calculated every three years by an independent professionally qualified actuary. In the intervening years the actuary reviews the appropriateness of the provision and charge to income. Any surplus or deficiency in the provision is recognised immediately.

The provision and charge to income have been calculated on the basis of an actuarial valuation as at 1 January 1993, using the following main assumptions:

- the number of persons to whom supplementary pensions are paid will not increase significantly;
 - the return on the notional investment will be 9%;
 - no increases in pensions are given.
-

2 Income from fixed asset investments

	1993	1992
	£'000	£'000
Listed investments	<u>1,192</u>	<u>1,032</u>

3 Other income

	1993	1992
	£'000	£'000
Royalty income	102	113
Share of royalties payable to third parties	<u>(42)</u>	<u>(44)</u>
	<u>60</u>	<u>69</u>

The royalties relate to the DNA probe which is being marketed by a licensee.

4 (a) Emoluments of members of the Governing Body

No member of the Governing Body received any emoluments in respect of services to the Institute during the year (1992: nil).

(b) Employee information

The average number of persons employed by the Institute during the year was 3 (1992: 3), all of whom were employed in an administrative capacity.

(c) Salaries	1993	1992
	£'000	£'000
Gross salaries	87	90
Employer's national insurance and state pension contributions	<u>8</u>	<u>8</u>
	<u>95</u>	<u>98</u>

5 Other administrative expenses

	1993	1992
	£'000	£'000
Office expenses	9	8
Audit fee	6	6
Professional fees	3	3
Travel expenses	20	19
General expenses	14	10
Depreciation	1	1
DNA probe expenses	<u>3</u>	<u>3</u>
	<u>56</u>	<u>50</u>

6 Grants

These represent amounts approved for disbursement to the Institute's Research Fellows in respect of the year ended 31 December 1993.

7 Tangible fixed assets

	Temporary buildings
Cost	£'000
At 1 January 1993 and 31 December 1993	<u>8</u>
Depreciation	
At 1 January 1993	5
Charge for year	<u>1</u>
At 31 December 1993	<u>6</u>
Net book value	
At 31 December 1993	<u>2</u>
At 31 December 1992	<u>3</u>

8 Investments**Basis of valuation**

Listed investments are valued at middle market quotations ruling at the year end.

Movement during the year	£'000
Market value at beginning of year	18,811
Purchases during the year at cost	6,360
Proceeds of sales during the year	(4,260)
Changes in market valuation	<u>3,607</u>
Market value at end of year	<u>24,518</u>

The historical cost of investments at 31 December 1993 was £15,684,000 (1992: £12,395,000).

9 Debtors

	1993	1992
	£'000	£'000
Prepayments and accrued income	166	147
Other debtors	<u>15</u>	<u>57</u>
	<u>181</u>	<u>204</u>

**10 Creditors:
amounts falling due
within one year**

	1993	1992
	£'000	£'000
Accruals	317	338
Other creditors including taxation and social security	<u>21</u>	<u>4</u>
	<u>338</u>	<u>342</u>

11 Provision for liabilities and charges

This represents a provision for future supplementary pension payments. Supplementary pensions were being paid in respect of thirty-two ex-employees at 31 December 1993 (1992: thirty-five), based on their salary and length of service. The supplementary pensions are unfunded, with payments made out of the Institute's funds as they fall due. To date, these supplementary pensions have been increased in line with public sector pensions, but no commitments have been made to increase the future supplementary pension payments, this being entirely at the discretion of the members of the Governing Body.

Movements in the provision during the year were as follows:

	1993 £'000	1992 £'000
Provision at beginning of year	421	416
Transfer from income and expenditure account	58	78
Pensions paid	<u>(74)</u>	<u>(73)</u>
Provision at end of year	<u>405</u>	<u>421</u>

12 Capital Fund

	1993 £'000	1992 £'000
Donations and endowments have been received to date from:		
Dr Ludwig Mond (1893)	2	2
Berridge Trustees (1893-1898)	46	46
Worshipful Company of Grocers (1894 and 1969-1973)	15	15
Lord Iveagh (1900)	250	250
Lord Lister's Bequest (1913-1923)	19	19
William Henry Clarke Bequest (1923-1926)	7	7
Rockefeller Foundation (1935-1936)	3	3
Wolfson Foundation (1969-1973)	300	300
Jenner Memorial Studentship Fund (1984)	48	48
Professor William Bulloch Bequest (1990)	6	6
Other donations and legacies (1891-1990)	71	71
Centenary donations: Coopers & Lybrand	5	5
Guinness plc	5	5
ICI plc	5	5
Worshipful Company of Grocers	5	5
Coutts & Co	5	5
MacFarlanes	1	1
	<u>793</u>	<u>793</u>

13 General fund

	Realised £'000	Unrealised £'000	Total £'000
Balance at beginning of year	13,989	6,414	20,403
Movement in value of fixed asset investments	1,233	2,374	3,607
Surplus for the year	<u>107</u>	<u>-</u>	<u>107</u>
Balance at end of year	<u>15,329</u>	<u>8,788</u>	<u>24,117</u>

14 Financial commitments

The Institute is committed to paying the salaries and expenses of the present twenty-eight Research Fellows (1992: twenty-six) over the remainder of their fellowship period (maximum five years). The amounts involved, excluding any allowance for future inflation or salary regrading, are as follows:

	1993	1992
	£'000	£'000
Payable within one year	991	862
Payable between two to five years	1,949	1,801
	<u>2,940</u>	<u>2,663</u>

In addition to the above commitments, it is the Institute's intention to award five new Fellowships annually (each for a period of five years) for the foreseeable future.

Auditors' report page 3.



THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

Brockley Hill Stanmore Middlesex HA7 4JD

REPORT OF THE GOVERNING BODY

1994



THE GOVERNING BODY

Professor G S Dawes, CBE, DM, FRCP, FRCOG, FRS, *Chairman*

D C Hobson, CBE, MA, FCA, *Hon Treasurer*

Professor H J Evans, PhD, FRCPE, FRSE

C E Guinness, CVO

The Rt Hon the Earl of Iveagh

Professor Sir Hans Kornberg, MA, DSc, ScD, FRS

Professor Dame June K Lloyd, DBE, MD, FRCP, FRCPE

Dr Anne L McLaren, DBE, MA, DPhil, FRCOG, FRS

Professor Sir Keith Peters, MB, BCh, FRCP

Dr A Robertson, CBE, PhD

G T Sammons, CBE, MA

Professor Anne E Warner, PhD, FRS

Clerk to the Governors G J Roderick, BCom

Solicitors

Macfarlanes
10 Norwich Street
London EC4A 1BD

Auditors

Coopers & Lybrand
1 Embankment Place
London WC2N 6NN

SCIENTIFIC ADVISORY COMMITTEE

Dr Anne L McLaren, DBE, MA, DPhil, FRCOG, FRS, *Chairman*

Professor Sir Alec Jeffreys, DPhil, FRS

Professor A J McMichael, MB, BChir, PhD, FRCP, FRS

Professor Sir Kenneth Murray, PhD FRCPATH, FRSE, FRS

Professor Richard N Perham, PhD, ScD, FRS

Professor Sir Keith Peters, MB, BCh, FRCP

Professor Anne E Warner, PhD, FRS

ANNUAL GENERAL MEETING 6 JUNE 1994

REPORT OF THE GOVERNING BODY

Governing Body

There have been no changes in the composition of the Governing Body during the year.

The Governing Body congratulates Dr Anne L McLaren on her appointment as President of the British Association for the Advancement of Science from September 1993 to September 1994.

Scientific Advisory Committee

There have been no changes so far this year but changes will be made in June/July 1994.

The Governing Body has much pleasure in recording that the honour of Knighthood was conferred upon Professor Kenneth Murray in the Queen's Birthday Honours, 1993 and upon Professor Alec Jeffreys in the New Year's Honours of 1994. Reference is also made to Professor Sir Alec Jeffreys later in this report under the heading of Research Fellowship Scheme.

Institute Membership

We report the resignations from membership of Sir Arnold Burgen, Professor Alan A Glynn, Dr Arthur E Mourant and Professor A David Smith.

We are pleased to welcome as Members of the Institute Professor Andrew J McMichael, FRS, and Professor Richard N Perham, FRS, members of the Scientific Advisory Committee, and Dr Patricia Tippett, OBE, who was formerly a member of the Institute staff. We are also pleased to welcome Dr Mary Carter, MD, FRCP, as the representative of the President of the Royal College of Physicians, Edinburgh, and

Professor Robert D Cohen, MD, FRCP, as the representative of the President of the Royal College of Physicians, London. We are also particularly pleased to welcome to membership eight former Fellows:

Professor Jeffrey W Almond
Professor Leszek K Borysiewicz
Professor Christopher F Higgins
Professor J Simon Kroll
Dr Nicholas B La Thangue
Professor David W Rice
Dr Geoffrey L Smith
Professor Stephen J Yeaman

The Governors congratulate Dr Tippett on the award of the OBE in the New Year's Honours.

We were pleased to learn from the University of London that Professor David Bradley has been re-appointed as their representative on the Institute Membership for a further period of five years from October 1993.

Research Fellowship Scheme

The scheme, started in 1982, continues to be a success. Fifty-four Fellows have been appointed and a further five are likely to be appointed in October next. There are nine women Fellows and two women members of the Scientific Advisory Committee. Ten past or present Fellows have medical qualifications, five of whom use their skills in clinical departments. Fellowships have been widely distributed, nine in Cambridge, seven in Oxford, six in Leicester, three each in Babraham, University College London, Dundee and Newcastle-upon-Tyne, two each in Edinburgh, the National Institute for Medical Research, Mill Hill, Sheffield and Southampton and one each in 12 other universities across the country. Thirteen Fellows (26%) have been appointed to statutory or personal Chairs, including Professor Sir Alec Jeffreys who was elected a fellow of the Royal Society in 1986 and to the Wolfson Professorship of the Royal Society in 1991. He was knighted in the New Year's Honours 1994. Other fellows have been appointed heads of departments and thirteen fellows have been appointed as Readers or Senior Lecturers or as Principal Scientific Officers under the Research Councils. Five have been appointed to fellowships in Oxford or Cambridge colleges. The Governors are justifiably pleased with the success of the scheme, on which over £1,000,000 a year is currently being spent.

The Governors wish to report that:

(a) Dr Anthony R Berendt, John Radcliffe Hospital, University of Oxford, has been granted a further year's leave of absence without pay to enable him to work as an honorary Senior Registrar with the Oxford Regional Health Authority to 31 December 1994.

(b) Dr Sally Freeman, Aston University, has been granted unpaid leave for six months from 1 February to 31 July 1994 to work at the Cancer Research Institute, Arizona State University, to enable her to gain experience in the field of natural product isolation. The Governors have also approved of the transfer of her fellowship to the University of Manchester from 1 September 1994 and have extended her fellowship to 30 September 1995.

(c) Dr Allan E Herbison, AFRC Babraham Institute, who holds the Drapers Research Fellowship at Pembroke College, Cambridge, was awarded the Walpole Prize by the Society for the Study of Fertility, July 1992, and the Sandoz Prize by the British Endocrine Society, March 1993.

(d) Dr Anthony Maxwell, University of Leicester. As the result of his research, Lucent Ltd, Leicester University's wholly owned company, is offering gyrase for sale and the Institute will receive a substantial percentage of net income as royalties.

(e) Professor David W Rice, University of Sheffield. In collaboration with him, the University are exploiting software for searching protein 3-D structure databases for which the Institute will receive a share of the royalties.

(f) Dr A Jennifer Rivett, University of Leicester, has been granted an extension to her fellowship for two years to 30 September 1996.

The Governors warmly congratulate:

(a) Professor Sir Alec Jeffreys, University of Leicester, who has been granted the Freedom of the City of Leicester. The Institute was represented at the ceremony on 27 August 1993 by Mr & Mrs Gordon Roderick.

In November 1993 Sir Alec was awarded the Lloyd of Kilgerran Prize from the Foundation for Science and Technology.

(b) Dr Kieran Kirk, University of Oxford, on his appointment as Staines Medical Research Fellow at Exeter College, Oxford, from 1 October 1992 to 30 September 1995.

(c) Professor David W Rice, University of Sheffield, a Fellow from 1 October 1988 to 30 September 1993, on his promotion to a Personal Chair in the Department of Molecular Biology and Biotechnology on 1 October 1993 and from the same date for three years Director of the Krebs Institute for Biomolecular Research at Sheffield.

(d) Dr Claude M Wischik, Cambridge University, on his appointment as Clinical Lecturer/Senior Registrar in Old Age Psychiatry in the Department of Psychiatry, Cambridge, from 1 March 1994.

The following Fellows completed their fellowships on 30 September 1993:

Dr Phillip Hawkins, AFRC Babraham Institute
Dr Wolf Reik, AFRC Babraham Institute
Professor David W Rice, University of Sheffield

Dr Claude M Wischik's extended fellowship ended on 28 February 1994.

The Fellowship Weekend at Christ's College Cambridge, in September 1993 was another successful event. As usual, seven Fellows gave talks on their research work and they were:

Dr Catherine Boulter
Dr Christopher Dowson
Dr Gwyn Gould
Dr Allan Herbison
Dr Steven Homans
Dr Kieran Kirk
Dr Penny Stein

The Governors are grateful to their colleague, Professor Sir Hans Kornberg, Master of Christ's College, Cambridge, for his co-operation in making the meeting such a success. The next meeting, on 9 and 10 September 1994, will again be held at Christ's College, Cambridge.

Last year's Annual Report included an offer of a fellowship from October 1993 to Dr Philip A Reay of the Nuffield Department of Clinical Medicine, John Radcliffe

Hospital, Oxford. Dr Reay declined the Institute's offer of a fellowship in favour of a Wellcome Research Fellowship and the offer was therefore made to Dr Mark Buttner, University of East Anglia, who took up his fellowship on 1 January 1994.

The number of applications for fellowships to start from 1 October 1994 was 54 (52 in 1993). Included in the 54 applications this year were 16 women (13 in 1993) and 13 medically qualified candidates, including clinicians (3 in 1993). Included in the medically qualified group are a Veterinary Surgeon and a Dentist. The Scientific Advisory Committee short-listed and interviewed 12 candidates. I am sure that the highest standard of our research fellows continues to be maintained, the candidates offered fellowships being:

<i>Name</i>	<i>Place where research will be carried out</i>	<i>Title of research proposal</i>
Dr Victoria J ALLAN	Biochemistry Division, School of Biological Sciences, University of Manchester.	Investigation of membrane movement along microtubules.
Dr John DAVEY	School of Biochemistry, University of Birmingham.	Cell to cell communication. <i>S. pombe</i> as a genetically tractable model for higher eukaryotes.
Dr Thomas J EVANS	Department of Infectious Diseases and Bacteriology, Royal Postgraduate Medical School.	Molecular mechanisms controlling inducible nitric oxide synthase activity.
Dr Christopher A HUNTER	Department of Chemistry, University of Sheffield.	Computer modelling of non-covalent interactions in biology.
Dr Jane A McKEATING	Department of Microbiology, University of Reading.	Functional studies of the human immunodeficiency virus envelope glycoprotein.

** Dr Evans was placed first in order of merit by the Committee and was therefore elected Lister Institute-Jenner Research Fellow.

Conclusion

I have been chairman of the Governing Body since 1988 and am retiring after this meeting. I am delighted to be succeeded by Anne McLaren, DBE, FRS, who has most ably chaired the Scientific Advisory Committee for the past five years. It is also a pleasure to record that Sir James Gowans, CBE, FRS, one-time secretary of the

Medical Research Council, has accepted an invitation to return as chairman of the Scientific Advisory Committee, a position that, you will recall, he held in 1988-89 before he was called away to Strasbourg.

I have much enjoyed my time as chairman, and acknowledge with warm gratitude the support of my fellow Governors, and of the Members of the Institute. The honorary Treasurer, David Hobson, has guided our fortunes most ably; we are all most grateful for his experience and skill. Finally, I owe a great debt of gratitude to our Secretary, Gordon Roderick. His warm-hearted, generous and meticulous attention to detail, to our meetings and our Fellows, has ensured that our affairs have run smoothly and logically. I wish you all many thanks for the past, and good fortune in the future. I shall miss you all.

Geoffrey S Dawes
Chairman

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

Brockley Hill Stanmore Middlesex HA7 4JD

ACCOUNTS

for the year ended 31 December

1994



THE GOVERNING BODY

Dr Anne L McLaren, DBE, MA, DPhil, FRCOG, FRS, *Chair*

Professor G S Dawes, CBE, DM, FRCP, FRCOG, FRS (*retired 6 June 1994*)

D C Hobson, CBE, MA, FCA, *Hon Treasurer*

Professor H J Evans, PhD, FRCPE, FRSE

Sir James Gowans, CBE, FRCP, FRS (*appointed 6 June 1994*)

C E Guinness, CVO

The Rt Hon the Earl of Iveagh

Professor Sir Hans Kornberg, MA, DSc, ScD, FRS

Professor Dame June K Lloyd, DBE, MD, FRCP, FRCPE

Professor Sir Keith Peters, MB, BCh, FRCP, FRS

Dr A Robertson, CBE, PhD

G T Sammons, CBE, MA

Professor Anne E Warner, PhD, FRS

Clerk to the Governors G J Roderick, BCom

Company No 34479

Registered Charity No 206271

FINANCIAL REPORT OF THE GOVERNING BODY

for the year ended 31 December 1994

The Institute is a company limited by guarantee and has charitable status.

The Governing Body presents the accounts of the Institute for the year ended 31 December 1994. A separate report of the Governing Body is prepared.

Results

The results of the Institute for the year ended 31 December 1994 are set out on page 4. The surplus for the financial year is £43,000 compared with a surplus of £107,000 in 1993, reflecting an increase in grants made. The value of the Institute's investments decreased by £3.0 million (1993: £3.7 million increase) during the year.

Principal activities

The income of the Institute is utilised to support medical research.

Future operations

It is expected that during 1995 a further five Fellowships will be awarded, making a total (after taking resignations into account) of twenty-eight, each normally for a period of five years.

Governing Body

The members of the Governing Body who served at any time during 1994 are shown on page 1.

Auditors

A resolution to reappoint Coopers & Lybrand as auditors will be proposed at the General Meeting.

Anne McLaren
Chair
18 July 1995

AUDITORS' REPORT

to the Members of The Lister Institute of Preventive Medicine

We have audited the financial statements on pages 4 to 10.

Respective responsibilities of governors and auditors.

Company law requires the governors to prepare financial statements for each financial year which give a true and fair view of the state of affairs of the Institute and of the income and expenditure of the Institute for that period. In preparing those financial statements, the governors are required to:

- (i) select suitable accounting policies and then apply them consistently;
- (ii) make judgements and estimates that are reasonable and prudent;
- (iii) state whether applicable accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements;
- (iv) prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Institute will continue in business.

The governors are responsible for keeping proper accounting records which disclose with reasonable accuracy at any time the financial position of the Institute and to enable them to ensure that the financial statements comply with the Companies Act 1985. They are also responsible for safeguarding the assets of the Institute and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

COOPERS & LYBRAND

Chartered Accountants and Registered Auditors
London

18 July 1995

Basis of opinion

We conducted our audit in accordance with Auditing Standards issued by the Auditing Practices Board. An audit includes examination, on a test basis, of evidence relevant to the amounts and disclosures in the financial statements. It also includes an assessment of the significant estimates and judgements made by the governors in the preparation of the financial statements, and of whether the accounting policies are appropriate to the Institute's circumstances, consistently applied and adequately disclosed.

We planned and performed our audit so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the financial statements are free from material misstatement whether caused by fraud or other irregularity or error. In forming our opinion we also evaluated the overall adequacy of the presentation of information in the financial statements.

Opinion

In our opinion the financial statements give a true and fair view of the state of the Institute's affairs at 31 December 1994 and of its results and total recognised gains and losses for the year then ended and have been properly prepared in accordance with the Companies Act 1985.

INCOME AND EXPENDITURE ACCOUNT

for the year ended 31 December 1994

	Notes	1994 £'000	1993 £'000
Income from fixed asset investments	2	1,252	1,192
Interest receivable		45	83
Other income	3	57	60
		<u>1,354</u>	<u>1,335</u>
Administrative expenses			
Salaries	4	86	95
Pension costs	11	51	58
Investment management fees		66	59
Other	5	54	56
		<u>(257)</u>	<u>(268)</u>
		1,097	1,067
Grants	6	<u>(1,054)</u>	<u>(960)</u>
Surplus for the year		<u>43</u>	<u>107</u>

Statement of total recognised gains and losses for the year ended 31 December 1994

Surplus for financial year	43	107
Realised gains on investments	1,534	1,233
Increase/(reduction) in unrealised gains on investments	(4,572)	2,374
Capital fund donations received	1	-
Total recognised gains and losses for the year	<u>(2,994)</u>	<u>3,714</u>
Capital and funds at beginning of year	24,910	21,196
Capital and funds at end of year	<u>21,916</u>	<u>24,910</u>

The notes set out on pages 6 to 10 form part of these accounts.
Auditors' report page 3.

BALANCE SHEET

at 31 December 1994

	Notes	1994 £'000	1993 £'000
Fixed assets			
Tangible assets	7	2	2
Investments	8	21,051	24,518
		<u>21,053</u>	<u>24,520</u>
Current assets			
Debtors	9	145	181
Cash at bank and in hand		1,454	952
		<u>1,599</u>	<u>1,133</u>
Creditors:			
amounts falling due within one year	10	(358)	(338)
Net current assets			
		<u>1,241</u>	<u>795</u>
Total assets less current liabilities			
		<u>22,294</u>	<u>25,315</u>
Provisions for liabilities and charges			
	11	(378)	(405)
		<u>21,916</u>	<u>24,910</u>
Capital and funds			
Capital fund	12	794	793
General fund	13	21,122	24,117
		<u>21,916</u>	<u>24,910</u>

These accounts were approved by the Governing Body on 18 July 1995.

ANNE MCLAREN	Members of the
D C HOBSON	Governing Body

The notes set out on pages 6 to 10 form part of these accounts.
Auditors' report page 3.

NOTES TO THE ACCOUNTS

for the year ended 31 December 1994

I Principal accounting policies

The accounts have been prepared in accordance with applicable Accounting Standards in the United Kingdom. A summary of the more important accounting policies is set out below.

(a) Basis of accounting

The financial assets are prepared in accordance with the historical cost convention modified by the re-valuation of investments.

(b) Tangible fixed assets

Tangible fixed assets are stated at their purchase price, together with any incidental expenses of acquisition. Provision for depreciation is made so as to write off the cost of tangible fixed assets on a straight line basis over the expected useful life of the fixed assets concerned. The principal annual rate used for this purpose is:

Temporary buildings 6²/₃%

(c) Investments

Investments are shown at market value in the balance sheet. Changes in the market value are included in the general fund in the year in which they arise.

(d) Investment income

Credit is taken for income from fixed asset investments on a cash received basis, except that for gilt-edged securities which is accrued. Investment income is shown net of irrecoverable foreign withholding tax.

(e) Royalties

Royalties are accounted for on an accruals basis.

(f) Foreign currency transactions

Transactions are translated into sterling at the exchange rate ruling on the date of the transaction. Investments held at the year end are valued at year-end rates of exchange.

(g) Donations

Donations received are credited direct to the Capital Fund.

(h) Supplementary pensions

Provision is made in the accounts for the total estimated future supplementary pension payments, discounted to reflect the timing of the payments. This represents the estimated amount that would have to be invested, were the supplementary pensions to be separately funded ("the notional investment").

The amount charged to the income and expenditure account reflects a return on the notional investment shown in the accounts.

The provision for future supplementary pension costs and the charge to the income and expenditure account are calculated every three years by an independent professionally qualified actuary. In the intervening years the actuary reviews the appropriateness of the provision and charge to income. Any surplus or deficiency in the provision is recognised immediately.

The provision and charge to income have been calculated on the basis of an actuarial valuation as at 1 January 1993, using the following main assumptions:

- the number of persons to whom supplementary pensions are paid will not increase significantly;
 - the return on the notional investment will be 9%;
 - no increases in pensions are given.
-

2 Income from fixed asset investments

	1994	1993
	£'000	£'000
Listed investments	<u>1,252</u>	<u>1,192</u>

3 Other income

	1994	1993
	£'000	£'000
Royalty income	92	102
Share of royalties payable to third parties	<u>(35)</u>	<u>(42)</u>
	<u>57</u>	<u>60</u>

The royalties relate mainly to the DNA probe which is being marketed by a licensee.

4 (a) Emoluments of members of the Governing Body

No member of the Governing Body received any emoluments in respect of services to the Institute during the year (1993: nil).

(b) Employee information

The average number of persons employed by the Institute during the year was 3 (1993: 3), all of whom were employed in an administrative capacity.

(c) Salaries

	1994	1993
	£'000	£'000
Gross salaries	79	87
Employer's national insurance and state pension contributions	<u>7</u>	<u>8</u>
	<u>86</u>	<u>95</u>

5 Other administrative expenses

	1994	1993
	£'000	£'000
Office expenses	7	9
Audit fee	6	6
Professional fees	4	3
Travel expenses	14	20
General expenses	23	14
Depreciation	-	1
DNA probe expenses	<u>-</u>	<u>3</u>
	<u>54</u>	<u>56</u>

6 Grants

These represent amounts approved for disbursement to the Institute's Research Fellows in respect of the year ended 31 December 1994.

7 Tangible fixed assets

	Temporary buildings £'000
Cost	
At 1 January 1994 and 31 December 1994	<u>8</u>
Depreciation	
At 1 January 1994	6
Charge for year	-
At 31 December 1994	<u>6</u>
Net book value	
At 31 December 1994	<u>2</u>
At 31 December 1993	<u>2</u>

8 Investments**Basis of valuation**

Listed investments are valued at middle market quotations ruling at the year end.

Movement during the year	£'000
Market value at beginning of year	24,518
Purchases during the year at cost	5,571
Proceeds of sales during the year	(6,000)
Changes in market value of investments held at 31 December 1994	<u>(3038)</u>
Market value at end of year	<u>21,051</u>

The historical cost of investments at 31 December 1994 was £16,835,000 (1993: £15,684,000).

9 Debtors

	1994 £'000	1993 £'000
Prepayments and accrued income	123	166
Other debtors	<u>22</u>	<u>15</u>
	<u>145</u>	<u>181</u>

**10 Creditors:
amounts falling due
within one year**

	1994 £'000	1993 £'000
Accruals	342	317
Other creditors including taxation and social security	<u>16</u>	<u>21</u>
	<u>358</u>	<u>338</u>

11 Provision for liabilities and charges

This represents a provision for future supplementary pension payments. Supplementary pensions were being paid in respect of thirty-one ex-employees at 31 December 1994 (1993: thirty-two), based on their salary and length of service. The supplementary pensions are unfunded, with payments made out of the Institute's funds as they fall due. To date, these supplementary pensions have been increased in line with public sector pensions, but no commitments have been made to increase the future supplementary pension payments, this being entirely at the discretion of the members of the Governing Body.

Movements in the provision during the year were as follows:

	1994 £'000	1993 £'000
Provision at beginning of year	405	421
Charge to income and expenditure account	51	58
Pensions paid	(78)	(74)
Provision at end of year	<u>378</u>	<u>405</u>

12 Capital Fund

	1994 £'000	1993 £'000
Donations and endowments have been received to date from:		
Dr Ludwig Mond (1893)	2	2
Berridge Trustees (1893-1898)	46	46
Worshipful Company of Grocers (1894 and 1969-1973)	15	15
Lord Iveagh (1900)	250	250
Lord Lister's Bequest (1913-1923)	19	19
William Henry Clarke Bequest (1923-1926)	7	7
Rockefeller Foundation (1935-1936)	3	3
Wolfson Foundation (1969-1973)	300	300
Jenner Memorial Studentship Fund (1984)	48	48
Professor William Bulloch Bequest (1990)	6	6
Other donations and legacies (1891-1994)	72	71
Centenary donations: Coopers & Lybrand	5	5
Guinness plc	5	5
ICI plc	5	5
Worshipful Company of Grocers	5	5
Coutts & Co	5	5
MacFarlanes	1	1
	<u>794</u>	<u>793</u>

13 General fund

	Realised £'000	Unrealised £'000	Total £'000
Balance at beginning of year	15,329	8,788	24,117
Movement in value of fixed asset investments	1,534	(4,572)	(3,038)
Surplus for the year	43	-	43
Balance at end of year	<u>16,906</u>	<u>4,216</u>	<u>21,122</u>

14 Financial commitments

The Institute is committed to paying the salaries and expenses of the present twenty-six Research Fellows (1993: twenty-eight) over the remainder of their fellowship period (maximum five years). The amounts involved, excluding any allowance for future inflation or salary regrading, are as follows:

	1994	1993
	£'000	£'000
Payable within one year	1,036	991
Payable between two to five years	2,134	1,949
	<u>3,170</u>	<u>2,940</u>

The Institute has approved but not committed fixed asset expenditure of £225,000 on a property for occupation by the Institute.

In addition to the above commitments, it is the Institute's intention to award five new Fellowships annually (each for a period of five years) for the foreseeable future.

Auditors' report page 3.

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

Brockley Hill Stanmore Middlesex HA7 4JD

REPORT OF THE GOVERNING BODY 1995



THE GOVERNING BODY

Dr Anne L McLaren, DBE, MA, DPhil, FRCOG, FRS, *Chair*

David C Hobson, CBE, MA, FCA, *Hon Treasurer*

Professor H John Evans, PhD, FRCPE, FRSE

Sir James Gowans, CBE, FRCP, FRS (*appointed June 1994*)

C Edward Guinness, CVO

The Rt Hon the Earl of Iveagh

Professor Sir Hans Kornberg, MA, DSc, ScD, FRS

Professor Dame June K Lloyd, DBE, MD, FRCP, FRCPE

Professor Sir Keith Peters, MB, BCh, FRCP, FRS

Dr Alan Robertson, CBE, PhD

Geoffrey T Sammons, CBE, MA

Professor Anne E Warner, PhD, FRS

Professor G S Dawes, CBE, DM, FRCP, FRCOG, FRS (*retired June 1994*)

Secretary, and Clerk to the Governors G J Roderick, BCom

Solicitors

Macfarlanes
10 Norwich Street
London, EC4A 1BD

Auditors

Coopers & Lybrand
1 Embankment Place
London, WC2 6NN

SCIENTIFIC ADVISORY COMMITTEE

Sir James Gowans, CBE, FRCP, FRS, *Chairman (appointed June 1994)*

Professor Sir Alec Jeffreys, DPhil, FRS

Professor Andrew J McMichael, MB, BChir, PhD, FRCP, FRS

Professor Richard N Perham, PhD, ScD, FRS

Professor Sir Keith Peters, MB, BCh, FRCP, FRS

Professor Jean O Thomas, CBE, ScD, FRS (*appointed June 1994*)

Professor Cheryll Tickle, MA, PhD (*appointed February 1995*)

Dr Anne L McLaren, DBE, MA, DPhil, FRCOG, FRS, *retired in June 1994 on her appointment to the chair of the Governing Body*

Professor Anne E Warner, PhD, FRS, *retired in June 1994*

Professor Sir Kenneth Murray, PhD, FRCPath, FRSE, FRS, *retired in February 1995*

ANNUAL GENERAL MEETING 18 JULY 1995

REPORT OF THE GOVERNING BODY

Governing Body

In June 1994, when Professor Geoffrey Dawes retired, I took over the chair of the Governing Body, having first been appointed to that Body as the Royal Society's representative in April 1988.

We are sorry to lose Geoffrey Dawes who was appointed founder chairman of the Scientific Advisory Committee in June 1981 and was co-opted a member of the Governing Body in October 1983. He became an elected Member of the Governing Body in November 1984 and succeeded Albert Neuberger as chairman in June 1988. Geoffrey was the eleventh person to hold that office in the Institute's hundred years' history and followed a long line of distinguished chairmen, including Sir Joseph (later Lord) Lister himself. We are grateful to Geoffrey for all the work he has done for the Institute and wish him a long, healthy and happy retirement. I am pleased to record that he remains a Member of the Institute. It is interesting to note, for historical reasons, that the first Scientific Advisory Committee in 1981/82 comprised the following:

Professor Geoffrey Dawes, <i>Chairman</i>	Professor Alan Glynn
Dr Brigitte Askonas	Dr Anne McLaren
Sir Arnold Burgen	Professor William Shaw
Professor John Evans	

and that two of these, John Evans and myself, are still actively involved in the affairs of the Institute as members of the Governing Body.

We are very pleased to welcome back on to the Governing Body Sir James Gowans, CBE, FRCP, FRS, who first served for a short while (November 1987 to November 1989) between his retirement from the Secretaryship of the Medical Research Council and his appointment at Strasbourg.

There have been no other changes in the composition of the Governing Body during the year.

Scientific Advisory Committee

On my appointment to the chair of the Governing Body, I resigned from the Scientific Advisory Committee where I had enjoyed several years' service with a group of extremely distinguished and agreeable colleagues. We are confident that the new Chair, Sir James Gowans, will ensure that the tradition of selecting first class candidates for our fellowships will be maintained.

Professor Anne Warner retired by rotation during the year. She has been replaced by Professor Jean Thomas, CBE, ScD, FRS, Professor of Macromolecular Biochemistry, University of Cambridge. The Governing Body appreciates very much Anne Warner's services on the Scientific Advisory Committee and wishes to thank her warmly for her significant contribution to the work of that Committee. Anne Warner remains a member of the Governing Body as the representative of the Royal Society, and also a Member of the Institute.

Under normal circumstances, Professor Sir Kenneth Murray would have retired by rotation from the Scientific Advisory Committee in June 1995. However, because of unavoidable absence abroad and other pressing commitments, he was unable to prepare the short-list of candidates for the 1995 fellowships, nor was he able to attend the interview committee meeting on 15 May 1995. The Governing Body, therefore, appointed Professor Cheryll Tickle, MA, PhD, of the Department of Anatomy, University College and Middlesex School of Medicine, London, to replace Sir Kenneth from 6 February 1995. We extend to Professor Tickle a warm welcome, and wish to thank Sir Kenneth for his significant contribution to the work of the Committee.

Institute Membership

We report with regret the resignation from membership of Dame Olga Uvarov.

We are pleased to welcome as Members of the Institute Professor Jean Thomas, CBE, ScD, FRS, who has been a member of the Scientific Advisory Committee since June 1994 and Professor Nicholas D Hastie, PhD, FRSE, who has been appointed by the University of Edinburgh to be its representative in place of Professor John Evans. We are happy to confirm that Professor Evans remains a Member of the Institute by virtue of his membership of the Governing Body.

Financial Matters

(a) Annual Accounts

The Annual Accounts for the year 1994 showed a capital and funds balance of £21,916,000 (1993 – £24,910,000), a reduction of about £3 million. The net surplus on revenue account, included in the funds balance, was £43,000 (1993 – £107,000) after deduction of fellowship costs and other expenses. The reason for the lower surplus was the substantial increase of £94,000 in fellowship costs, to a total of £1,054,000.

(b) Investment Policy

The Investment Sub-Committee of the Governing Body, consisting of the Hon Treasurer, the Secretary and Mr Geoffrey Sammons, together with a Director and the Fund Manager of Robert Fleming, meets every quarter and discusses in great detail the Institute's investment portfolio. Important policy decisions are regularly made. Over the years, our investments have produced very good results but 1994 was the exception; for example, in each of four of the years between 1989 and 1993, the overall return on the investment portfolio was in excess of 20%. In 1994 the outcome of -7.0% was negative for the first time since 1990, reflecting the impact of rising interest rates and a declining FT-SE 100 share index. The proportions held in the various investments are currently: Gilts 25%, UK equities 72%, and Europe 3%.

New Office Accommodation

The Governing Body has made strenuous efforts for many years to find suitable permanent office accommodation, but without success. However, we are delighted to report that we have purchased the freehold of The White House, Bushey Heath, Hertfordshire. The White House, which cost £195,000, a substantial reduction from the original asking price, is a semi-detached two-storey office building of 1580 sq ft and will make excellent office accommodation. The refurbishing costs will amount to over £30,000, and the building should be ready for occupation by no later than November 1995.

Institute Secretary

Mr Gordon Roderick retires from the Secretaryship this summer after nearly 37 years' service, having been appointed in December 1958. As Institute Secretary he has been responsible for building up our fellowship programme to the flourishing

state in which we see it today. All those who have been associated with Gordon will surely share my own warm feelings of gratitude and affection towards him, and will wish him well in his retirement.

The Governing Body has appointed Mr F Keith Cowey as Institute Secretary-Elect from Monday 6 March 1995 and as Institute Secretary from 18 July 1995. Mr Cowey is aged 52 years and lives in Woking, Surrey. He is a graduate in chemistry from Oxford and has Master's degrees in Biochemistry and Agricultural Science at Oxford and Cambridge respectively. Mr Cowey worked for many years for British Petroleum where he carried out research into the uses of oil in agriculture, worked as a specialist biological information officer and did research into bacterial leaching and with plant tissue cultures. He transferred to work in BP's Venture Research Unit for some years and then worked as BP Research's biotechnology manager in America. Since leaving BP in 1993 he has been acting as a technology management consultant for both MAFF and DTI. Mr Cowey is married with three daughters, one a graduate, and one at university while the youngest is taking A-level examinations next year.

Research Fellowship Scheme

The scheme, started in 1982, continues to be a success. Fifty-nine Fellows have been appointed and a further five are likely to be appointed in October next. The Governors are pleased that seventeen have been appointed to statutory or personal chairs. There are eleven women Fellows and eleven with medical qualifications, five of whom use their skills in clinical departments.

The Governors wish to report that:

- (a) Dr Catherine A Boulter, University of Cambridge, was granted maternity leave from 1 October 1994 to February 1995, and that her fellowship has been extended by two months to 28 February 1998.
- (b) Dr Thomas J Evans, Royal Postgraduate Medical School, appointed as a Fellow from 1 October 1994, took up his fellowship on 1 April 1995 because of unforeseen research commitments.
- (c) Dr Anthony Maxwell, University of Leicester, has been granted an extension to his fellowship of two years to 31 December 1997.
- (d) Dr Penelope E Stein, University of Cambridge, appointed on 1 September 1990, resigned her fellowship on 1 December 1994 to take up an appointment in

the Department of Medical Microbiology at the University of Alberta, Canada, and has been reinstated as a Fellow for six months from 1 September 1995 at the University of Cambridge to enable her to complete her research work there.

The Governors warmly congratulate:

(a) Dr Mark Buttner, University of East Anglia, who was promoted to the next grade within the Lecturer Scale from 1 April 1994.

(b) Dr Shamshad Cockcroft, University College London, a Fellow from 1 March 1986 to 28 February 1991, who was appointed to a personal chair in Cell Physiology in the Department of Physiology from 1 October 1994.

(c) Dr John Davey, University of Birmingham, on his promotion to Senior Lecturer from 1 October 1994.

(d) Dr Christopher G Dowson, University of Sussex, who was promoted to Grade 3 of the RA faculty scale from 1 September 1993.

(e) Dr Keith R Fox, University of Southampton, whose fellowship ended on 30 September 1994, on his promotion to Reader in the Department of Physiology and Pharmacology from 1 October 1994.

(f) Dr Gwyn W Gould, University of Glasgow, who is promoted to Reader in the Department of Biochemistry and Molecular Biology from 1 October 1995.

(g) Dr Steven W J Homans, University of St Andrews, who, on his transfer from the University of Dundee to the University of St Andrews on 1 October 1994, was promoted to Reader in Chemistry.

(h) Dr Christopher A Hunter, University of Sheffield, who was promoted to Reader in the Department of Chemistry from 1 October 1994, the date of the start of his fellowship.

(j) Dr Kieran Kirk, University of Oxford, who has been elected to a Senior Research Fellowship in Physiology at Exeter College, Oxford, from 1 October 1995 to 31 December 1997, the end of his Lister fellowship. He has also been appointed Sub-Rector at Exeter College for one year.

(k) Dr Pedro R Lowenstein, University of Wales College of Cardiff, on his promotion to Senior Lecturer in the Department of Physiology from 1 October 1994.

(l) Dr Anthony Maxwell, University of Leicester, who was appointed Reader in the Department of Biochemistry from 1 October 1994.

(m) Dr David B G Oliveira, Addenbrooke's Hospital, Cambridge, (fellowship ended on 31 December 1994), who was appointed to a University Lectureship at Cambridge on 1 January 1995 and who, in June 1995, was appointed to the Foundation Chair of Renal Medicine at St George's Hospital Medical School, London.

(n) Dr Stephen J Perkins, Royal Free Hospital School of Medicine, a Fellow from 1 February 1983 to 31 October 1986, who was promoted to Reader in Structural Biochemistry on 14 April 1994.

(o) Dr Ian S Roberts, University of Leicester, who was awarded the 1994 Fleming Award from the Society for General Microbiology and the 1994 W H Pearce prize by the Society for Applied Bacteriology, and who was appointed to the chair in Microbiology at the University of Manchester from 1 April 1995.

(p) Dr Colin J Stirling, University of Manchester, who was appointed Reader in the Department of Biological Sciences from 1 October 1994.

(q) Dr Colin Taylor, University of Cambridge, who has been promoted to Reader in Cellular Pharmacology from 1 October 1995.

The following Fellows completed their fellowships on 30 September 1994:

Dr Ann Burchell, Ninewells Hospital, Dundee,
Professor Bernard A Connolly, University of Newcastle upon Tyne,
Dr Keith R Fox, University of Southampton;

on 1 December 1994:

Dr Penny Stein, University of Cambridge, and

on 31 December 1994:

Dr David B G Oliveira, Addenbrooke's Hospital, Cambridge.

The Fellowship Weekend at Christ's College, Cambridge in September 1994 was another successful event. As usual, seven Fellows gave talks on their research work and they were:

Dr Tony Berendt	Dr Jennifer Rivett
Dr Ann Burchell	Dr Colin Stirling
Dr Paul Eggleston	Dr Colin Taylor
Dr Nick Holmes	

The Governors are again grateful to their colleague, Professor Sir Hans Kornberg, Master of Christ's College, Cambridge, for his co-operation in making the meeting such a success. The next meeting, on 8 and 9 September 1995, will again be held at Christ's College, Cambridge.

Research Fellowships 1995

The number of applications for fellowships to start from 1 October 1995 was 49 (54 in 1994). Included in the 49 applications this year were 19 women (16 in 1994) and 5 medically qualified candidates, including clinicians (13 in 1994). The Scientific Advisory Committee short-listed and interviewed 12 candidates. The candidates offered fellowships were:

Name	Place where research will be carried out	Title of research proposal
Dr Ian N M DAY MA, MB, BChir, PhD, MRCPATH	Department of Medicine, The Medical School, University College London.	Population-scale approaches to polygenic disease with reference to coronary artery disease.
Dr Caroline DIVE BPharm, PhD	School of Biological Sciences, University of Manchester.	The molecular regulation of apoptotic cell death.
Dr Philip A EVANS BA, DPhil	Department of Biochemistry, University of Cambridge.	The protein folding problem.
Dr David G KIPLING BA, DPhil	MRC Human Genetics Unit, Western General Hospital, Edinburgh.	Mouse telomeres and centromeres: a functional approach.
Dr Prem KUMAR BSc, DPhil	Department of Physiology, University of Birmingham.	Chronic hypoxaemia and the post-natal maturation of chemosensitivity.

The Lister Link

The Governing Body was very pleased to receive the following extract from the October 1994 issue of The University of Reading Bulletin. The extract is repeated in full for the benefit of Members:

"The fourth academic generation of links between (Reading) University microbiologists and the Lister Institute of Preventive Medicine will be created this month when Dr Jane

McKeating (Lecturer in Microbiology) takes up a Lister Institute Research Fellowship. Under the terms of the award Dr McKeating will continue her research on the human immunodeficiency virus (HIV) for five years in the School of Animal and Microbial Sciences. The Lister Institute Research Fellowships are awarded in the field of biomedical sciences. Normally five Fellows are appointed each year after a rigorous selection procedure by the Scientific Advisory Committee. The Fellowships are financially generous and very prestigious. Professor Sir Alec Jeffreys, the inventor of 'DNA fingerprinting', is a former Lister Research Fellow as is Professor Jeff Almond.

"The first of the four Reading-Lister links involved the late Professor Knight, holder of the Foundation Chair of Microbiology, who had been a biochemist in the Serum Department at the Lister Institute, Elstree. His successor, Emeritus Professor Kaplan, came to Reading directly from the headship of the Institute's Virus Vaccine Department, and was in turn succeeded by Professor Almond who was the holder of a Lister Institute Research Fellowship at the time of his appointment. In September, in an unrivalled display of the talent of Reading microbiologists, Professors Kaplan and Almond, both Members of the Institute, and Dr McKeating travelled together to attend the Tenth Lister Institute Research Fellowship Meeting at Christ's College, Cambridge, an annual event arranged by the Institute for its Members and current and former Fellows."

Conclusion

We look forward with confidence to another successful year for our Fellows and for the Lister Institute. In closing, I would like once again to wish Gordon Roderick a long and happy retirement.

Anne McLaren
Chair

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

The White House, High Road, Bushey Heath, Hertfordshire WD2 3JG

FINANCIAL STATEMENTS

for the year ended 31 December

1995

The Lister Institute of Preventive Medicine
is a company limited by guarantee (England 34479)
and a registered charity (206271)

THE GOVERNING BODY

Dr Anne L McLaren, DBE, MA, DPhil, FRCOG, FRS, *Chair*

D C Hobson, CBE, MA, FCA, *Hon Treasurer*

Professor H J Evans, PhD, FRCPE, FRSE

Sir James Gowans, CBE, FRCP, FRS

C E Guinness, CVO

The Rt Hon the Earl of Iveagh

Professor Sir Alec Jeffreys, DPhil, FRS (*appointed July 1995*)

Professor Sir Hans Kornberg, MA, DSc, ScD, FRS (*resigned July 1995*)

Professor Dame June K Lloyd, DBE, MD, FRCP, FRCPE

Professor Sir Keith Peters, MB, BCh, FRCP, FRS

Dr A Robertson, CBE, PhD

G T Sammons, CBE, MA

Professor Anne E Warner, PhD, FRS

Clerk to the Governors: F K Cowey, MA, BSc, DAS (from 18 July 1995)

G J Roderick, BCom (to 18 July 1995)

FINANCIAL REPORT OF THE GOVERNING BODY

for the year ended 31 December 1995

The Institute is a company limited by guarantee and has charitable status.

The Governing Body presents the financial statements of the Institute for the year ended 31 December 1995. A separate report of the Governing Body is prepared.

Results

The results of the Institute for the year ended 31 December 1995 are set out on page 4.

The net income for the financial year is £198,000 (1994: £44,000). The value of the Institute's investments increased by £3.3 million during the year (1994: £3.0 million decrease).

Principal activities

The income of the Institute is utilised to support medical research.

Future operations

It is expected that during 1996 a further five Fellowships will be awarded, making a total (after taking resignations into account) of twenty-seven, each normally for a period of five years.

Changes in fixed assets

The movements in fixed assets during the year are set out in note 7 to the financial statements.

Governing Body

The members of the Governing Body who served at any time during 1995 are shown on page 1.

Governors' responsibilities

The governors are required by UK company law to prepare financial statements for each financial year that give a true and fair view of the state of affairs of the Institute as at the end of the financial year and of the income and expenditure of the Institute for that period.

The governors confirm that suitable accounting policies have been used and applied consistently and reasonable and prudent judgements and estimates have been made in the preparation of the financial statements for the year ended 31 December 1995. The governors also confirm that applicable accounting standards have been followed and that the financial statements have been prepared on the going concern basis.

The governors are responsible for keeping proper accounting records, for safeguarding the assets of the Institute and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Auditors

A resolution to reappoint Coopers & Lybrand as auditors will be proposed at the General Meeting.

ANNE McLAREN

Chairman

11 June 1996

REPORT OF THE AUDITORS

to the members of The Lister Institute of Preventive Medicine

We have audited the financial statements on pages 4 to 10.

Respective responsibilities of governors and auditors

As described on page 2 the Institute's governors are responsible for the preparation of financial statements. It is our responsibility to form an independent opinion, based on our audit, on those statements and to report our opinion to you.

Basis of opinion

We conducted our audit in accordance with Auditing Standards issued by the Auditing Practices Board.

An audit includes examination, on a test basis, of evidence relevant to the amounts and disclosures in the financial statements. It also includes an assessment of the significant estimates and judgements made by the governors in the preparation of the financial statements, and of whether the accounting policies are appropriate to the Institute's circumstances, consistently applied and adequately disclosed.

We planned and performed our audit so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the financial statements are free from material

misstatement whether caused by fraud or other irregularity or error. In forming our opinion we also evaluated the overall adequacy of the presentation of information in the financial statements.

Opinion

In our opinion the financial statements give a true and fair view of the state of the Institute's affairs at 31 December 1995 and of its net income and total recognised gains and losses for the year then ended and have been properly prepared in accordance with the Companies Act 1985.

COOPERS & LYBRAND

Chartered Accountants and Registered Auditors
London

11 June 1996

STATEMENT OF FINANCIAL ACTIVITIES

for the year ended 31 December 1995

	Notes	1995 £'000	1994 £'000
INCOME AND EXPENDITURE			
Incoming resources			
Investment income	2	1,389	1,252
Interest receivable		110	45
Other income	3	52	57
Donations received		—	1
Total incoming resources		1,551	1,355
Resources expended			
<i>Direct charitable expenditure:</i>			
Grants	6	(1,025)	(1,054)
<i>Other expenditure:</i>			
Expenditure on management and administration of the charity:			
Investment management fees		(69)	(66)
Salaries	4	(93)	(86)
Pension costs	11	(88)	(51)
Other	5	(78)	(54)
		(328)	(257)
Total resources expended		(1,353)	(1,311)
Net incoming resources for the year		198	44
GAINS/(LOSSES) ON INVESTMENT ASSETS			
Realised	13	903	1,534
Unrealised	13	2,170	(4,572)
Net movement in funds		3,271	(2,994)
Capital and funds at beginning of year		21,916	24,910
Capital and funds at end of year		25,187	21,916

The notes set out on pages 6 to 10 form part of these financial statements.
Auditors' report page 3.

BALANCE SHEET

at 31 December 1995

	Notes	1995 £'000	1994 £'000
Fixed assets			
Tangible assets	7	269	2
Investments	8	<u>22,649</u>	<u>21,051</u>
		22,918	21,053
Current assets			
Debtors	9	<u>89</u>	<u>145</u>
Cash at bank and in hand		<u>2,898</u>	<u>1,454</u>
		2,987	1,599
Creditors:			
amounts falling due within one year	10	<u>(327)</u>	<u>(358)</u>
Net current assets		2,660	1,241
Total assets less current liabilities		25,578	22,294
Provisions for liabilities and charges	11	<u>(391)</u>	<u>(378)</u>
		25,187	21,916
Capital and funds			
Capital fund	12	794	794
General fund	13	<u>24,393</u>	<u>21,122</u>
		25,187	21,916

These financial statements were approved by the Governing Body on 11 June 1996.

ANNE McLAREN		Members of the
D C HOBSON		Governing Body

The notes set out on pages 6 to 10 form part of these financial statements.

Auditors' report page 3.

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 December 1995

I Principal accounting policies

The financial statements have been prepared in accordance with applicable Accounting Standards in the United Kingdom including the Statement of Recommended Practice "Accounting by Charities" issued in October 1995. A summary of the more important accounting policies is set out below.

(a) Basis of accounting

The financial statements are prepared in accordance with the historical cost convention modified by the re-valuation of Investments.

(b) Tangible fixed assets

Tangible fixed assets are stated at their purchase price, together with any incidental expenses of acquisition. Provision for depreciation is made so as to write off the cost of tangible fixed assets on a straight line basis over the expected useful life of the fixed assets concerned. The principal annual rate used for this purpose is:

Land and buildings 2%

Expenditure incurred on minor office equipment is included in the profit and loss account at the acquisition date.

(c) Investments

Investments are shown at market value in the balance sheet. Changes in the market value are included in the general fund in the year in which they arise.

(d) Investment income

Credit is taken for income from fixed asset investments on a cash received basis, except that for gilt-edged securities which is accrued. Investment income is shown net of irrecoverable foreign withholding tax.

(e) Royalties

Royalties are accounted for on an accruals basis.

(f) Foreign currency transactions

Transactions are translated into sterling at the exchange rate ruling on the date of the transaction. Investments held at the year end are valued at year-end rates of exchange.

(g) Grants

Grants approved for disbursement to the Institute's Research Fellows are accrued as liabilities in the financial statements.

(h) Direct charitable expenditure

Direct charitable expenditure comprises all expenditure directly relating to the objects of the charity.

(i) Supplementary pensions

Provision is made in the financial statements for the total estimated future supplementary pension payments, discounted to reflect the timing of the payments. This represents the estimated amount that would have to be invested, were the supplementary pensions to be separately funded ("the notional investment").

The provision for future supplementary pension costs and the charge to the income and expenditure account are calculated every three years by an independent professionally qualified actuary. In the intervening years the actuary reviews the appropriateness of the provision and charge to income. Any surplus or deficiency in the provision is recognised immediately.

The provision and charge to income have been calculated on the basis of an actuarial valuation as at 1 January 1995, using the following main assumptions:

- the number of persons to whom supplementary pensions are paid will not increase significantly;
- the return on the notional investment will be 9%;
- no increases in pensions are given.

2 Income from fixed asset investments

	1995	1994
	£'000	£'000
Listed investments	<u>1,389</u>	<u>1,252</u>

Income from investments for 1995 includes an exceptional amount of £57,000 which relates to transitional relief on dividend income for the period April 1993 to December 1994 which had not previously been recognised in the financial statements.

3 Other income

	1995	1994
	£'000	£'000
Royalty income	83	92
Share of royalties payable to third parties	<u>(31)</u>	<u>(35)</u>
	<u>52</u>	<u>57</u>

The royalties relate mainly to the DNA probe which is being marketed by a licensee.

4 (a) Emoluments of members of the Governing Body

No member of the Governing Body received any emoluments in respect of services to the Institute during the year (1994: nil).

Travel expenses incurred by members of the Governing Body in connection with their attendance at meetings are reimbursed.

Members of the Governing Body who are also members of the Scientific Advisory Committee received remuneration in relation to their services to the committee. Remuneration totalled £1,600 and was paid to three of the members.

(b) Employee information

The average number of persons employed by the Institute during the year was 3 (1994: 3), all of whom were employed in an administrative capacity. No employee earned £40,000 p.a. or more

(c) Salaries	1995	1994
	£'000	£'000
Gross salaries	85	79
Employer's national insurance and state pension contributions	<u>8</u>	<u>7</u>
	<u>93</u>	<u>86</u>

5 Other expenditure

	1995	1994
	£'000	£'000
Office expenses	11	7
Travel expenses	11	14
Audit fee	7	6
Professional fees	13	4
General expenses	<u>36</u>	<u>23</u>
	<u>78</u>	<u>54</u>

6 Grants

Grants of £1,025,000 (1994: £1,054,000) were made during the year. These represent amounts approved for disbursement to the Institute's Research Fellows in respect of the year ended 31 December 1995.

7 Tangible fixed assets

	Land and buildings £'000
Historical Cost	
At 1 January 1995	8
Additions	270
Disposals	(8)
At 31 December 1995	<u>270</u>
Depreciation	
At 1 January 1995	6
Charge for year	1
Disposals	(6)
At 31 December 1995	<u>1</u>
Net book value	
At 31 December 1995	<u>269</u>
At 31 December 1994	<u>2</u>

8 Investments

Investments comprise listed investments which are valued at middle market quotations ruling at the year end. All investments are in UK equities and Government bonds.

	1995 £'000	1994 £'000
Market value at beginning of year	21,051	24,518
Purchases during the year at cost	9,127	5,571
Proceeds of sales during the year	(10,602)	(6,000)
Changes in market value of investments held at 31 December 1995	<u>3,073</u>	<u>(3,038)</u>
Market value at end of year	<u>22,649</u>	<u>21,051</u>
Historical cost at end of year	<u>16,263</u>	<u>16,835</u>

Significant shareholdings, exceeding 5% of the value of investments exist in the following:

	1995 £'000	1994 £'000
Shell Transport & Trading Co	<u>1,406</u>	<u>1,148</u>

9 Debtors

	1995	1994
	£'000	£'000
Prepayments and accrued income	63	123
Other debtors	29	22
	<u>92</u>	<u>145</u>

10 Creditors: amounts falling due within one year

	1995	1994
	£'000	£'000
Accruals	324	342
Other creditors including taxation and social security	3	16
	<u>327</u>	<u>358</u>

11 Provision for liabilities and charges

This represents a provision for future supplementary pension payments. Supplementary pensions were being paid in respect of thirty ex-employees at 31 December 1995 (1994: thirty-one), based on their salary and length of service. The supplementary pensions are unfunded, with payments made out of the Institute's funds as they fall due. To date, these supplementary pensions have been increased in line with public sector pensions, but no commitments have been made to increase the future supplementary pension payments, this being entirely at the discretion of the members of the Governing Body.

Movements in the provision during the year were as follows:

	1995	1994
	£'000	£'000
Provision at beginning of year	378	405
Charge to income and expenditure account	88	51
Pensions paid	(75)	(78)
Provision at end of year	<u>391</u>	<u>378</u>

See overleaf for Notes 12 to 14

12 Capital Fund

	1995 £'000	1994 £'000
Donations and endowments have been received to date from:		
Dr Ludwig Mond (1893)	2	2
Berridge Trustees (1893-1898)	46	46
The Worshipful Company of Grocers (1894 and 1969-1973)	15	15
Lord Iveagh (1900)	250	250
Lord Lister's Bequest (1913-1923)	19	19
William Henry Clarke Bequest (1923-1926)	7	7
Rockefeller Foundation (1935-1936)	3	3
Wolfson Foundation (1969-1973)	300	300
Jenner Memorial Studentship Fund (1984)	48	48
Professor William Bulloch Bequest (1990)	6	6
Other donations and legacies (1891-1995)	72	72
Centenary donations: Coopers & Lybrand	5	5
Guinness plc	5	5
ICI plc	5	5
The Worshipful Company of Grocers	5	5
Coutts & Co	5	5
MacFarlanes	1	1
	<u>794</u>	<u>794</u>

13 General fund

	Realised £'000	Unrealised £'000	Total £'000
Balance at beginning of year	16,906	4,216	21,122
Movement in value of fixed asset investments	903	2,170	3,073
Net incoming resources for the year	198	-	198
Balance at end of year	<u>18,007</u>	<u>6,386</u>	<u>24,393</u>

14 Financial commitments

The Institute is committed to paying the salaries and expenses of the present twenty-seven Research Fellows (1994: twenty-six) over the remainder of their fellowship period (maximum five years). The amounts involved, excluding any allowance for future inflation or salary regrading, are as follows:

	1995 £'000	1994 £'000
Payable within one year	1,066	1,036
Payable from two to five years	<u>2,182</u>	<u>2,134</u>
	<u>3,248</u>	<u>3,170</u>

In addition to the above commitments, it is the Institute's intention to award five new Fellowships annually (each for a period of five years) for the foreseeable future.



THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

The White House, High Road, Bushey Heath, Hertfordshire WD2 3JG

REPORT OF THE GOVERNING BODY

1996

The Lister Institute of Preventive Medicine
is a company limited by guarantee (*England 34479*)
and a registered charity (*206271*)

THE GOVERNING BODY

Dr Anne L McLaren, DBE, MA, DPhil, FRCOG, FRS, *Chair*

David C Hobson, CBE, MA, FCA, *Hon Treasurer*

Professor H John Evans, PhD, FRCPE, FRSE

Sir James Gowans, CBE, FRCP, FRS

C Edward Guinness, CVO

The Rt Hon the Earl of Iveagh

Professor Sir Alec Jeffreys, DPhil, FRS (*appointed July 1995*)

Professor Dame June K Lloyd, DBE, MD, FRCP, FRCPE

Professor Sir Keith Peters, MB, BCh, FRCP, FRS

Dr Alan Robertson, CBE, PhD

Geoffrey T Sammons, CBE, MA

Professor Anne E Warner, PhD, FRS

Professor Sir Hans Kornberg, MA, DSc, ScD, FRS (*resigned July 1995*)

Secretary, and Clerk to the Governors:

G J Roderick, BCom (*to 18 July 1995*)

F K Cowey, MA, BSc, DAS (*from 18 July 1995*)

Solicitors

Macfarlanes
10 Norwich Street
London, EC4A 1BD

Auditors

Coopers & Lybrand
1 Embankment Place
London, WC2 6NN

SCIENTIFIC ADVISORY COMMITTEE

Sir James Gowans, CBE, FRCP, FRS, *Chair*

Professor Sir Alec Jeffreys, DPhil, FRS

Professor Andrew J McMichael, MB, BChir, PhD, FRCP, FRS

Professor Richard N Perham, PhD, ScD, FRS

Professor Sir Keith Peters, MB, BCh, FRCP, FRS

Professor Jean O Thomas, CBE, ScD, FRS

Professor Cheryl Tickle, MA, PhD

ANNUAL GENERAL MEETING 11 JUNE 1996

REPORT OF THE GOVERNING BODY

Governing Body

The Governing Body reports that Sir Hans Kornberg resigned from the Governing Body in July 1995 in order to take up a new position at the University of Boston. Sir Hans, a distinguished biochemist and former Master of Christ's College, Cambridge, had been a co-opted member of the Governing Body since June 1990 and a keen supporter of the Weekend meetings in Cambridge. The Governors wish Sir Hans every success in his new career.

The Governing Body welcomes, as a new co-opted member, Professor Sir Alec Jeffreys of the University of Leicester. Sir Alec, well-known for his scientific achievements, will bring a unique perspective to the Governing Body since he was a Lister Institute Research Fellow and a member of the Scientific Advisory Committee before becoming a member of the Governing Body.

Scientific Advisory Committee

Because of the early appointment of Professor Cheryl Tickle in 1995 there have been no changes this year in the composition of the Scientific Advisory Committee. One change is due to take place in July 1996.

Institute Membership

We are pleased to welcome to Membership two former fellows, Drs Anne Burchell and David Oliveira who became Members of the Institute in 1995. Following a Governing Body decision that all former fellows should be eligible for Membership of the Institute, 21 former fellows were welcomed into Membership at the beginning of 1996:

Dr Judith Armitage	Dr Nicholas Holmes
Dr Rosa Beddington	Dr Ian Jackson
Professor Graham Boulnois	Dr Andrew King
Professor Shamshad Cockcroft	Dr Sai-Kit Law
Professor Bernard Connolly	Dr Robert Lightowlers
Dr Paul Eggleston	Dr James McCormack
Dr Keith Fox	Professor Malcolm McCrae
Dr Sally Freeman	Dr Stephen Perkins
Dr Jonathan Fry	Professor Barry Potter
Professor Barry Halliwell	Dr Wolf Reik
Dr Philip Hawkins	

Financial Matters

(a) Financial Statements

The financial statements for 1995 show a capital and funds balance at the year-end of £25,187,000 (1994: £21,916,000). The market value of the Institute's investments increased by a little over £3 million during the year, reversing the equivalent decrease in 1994. The net income for the financial year was £198,000 (1994: £44,000), the increase arising partly from non-recurring factors.

The policy of the Governors is to maintain adequate financial resources to provide income to meet current and future commitments as they fall due. Current commitments are estimated at £3,248,000 at present cost levels, representing salaries and expenses of the present research fellows over the remainder of their fellowship periods (1994: £3,170,000). Future commitments will be incurred from the annual award of five-year senior research fellowships, rising because of increases in salary scales over the period of tenure of the fellowships. At present it appears that the reserves and investment income are likely to be sufficient to meet these commitments but that it would not be prudent to increase the number of fellowship awards on an annual basis.

(b) Investment Policy

The Investment Sub-Committee of the Governing Body, consisting of the Hon Treasurer, Mr Geoffrey Sammons and the Secretary, together with a Director, Mr Richard Fitzalan Howard and the Fund Manager, Mr Christopher Kennedy, of Robert Fleming Investment Management, meets quarterly and discusses the Institute's investment portfolio and investment strategy. The proportions held in the various investments at year-end were: UK equities 68%, UK bonds 24% and cash holdings 8% (1994: UK equities 69%, European equities 3%, UK bonds 25% and cash holdings 3%).

New Office Accommodation

Following the purchase of The White House, Bushey Heath, in May 1995, a contract for refurbishment was granted to Britone Developments (Watford) Ltd and overseen by Rumball Sedgwick, Chartered Surveyors. The extensive refurbishment required was done within the tender price of £72,000 and on time. The new office premises were occupied on 19 October 1995 and the sale of the portakabin was completed a month later.

Research Fellowship Scheme

The research fellowship scheme continues to be a success. A Lister Institute fellowship is a prestigious award: a Lister Institute Research Fellow in a department is seen to be a significant

asset in the university research assessment exercise, and, anecdotally, being short-listed for a fellowship is considered worthy of inclusion in a candidate's cv. A measure of the quality of the fellows appointed is the fact that 46% of former fellows now hold personal or statutory chairs as do a number of current fellows.

The Governors wish to report that, to mark the significant contribution to the research fellowship scheme of the former secretary, Gordon Roderick, they have inaugurated a Gordon Roderick Travel Scholarship. The recipient will be the Lister-Jenner Fellow appointed each year. The £1000 award can be used at any time during the five-year period of the fellowship to attend one or more conferences relevant to the Fellow's research. As no Lister-Jenner Fellow was appointed in 1995, the first recipient of the award was Dr Thomas Evans, the Lister-Jenner Fellow appointed in October 1994 who took up his fellowship in January 1996 on completion of his clinical training.

The Governors wish to report that, following a survey of the terms and conditions of other leading medical research charities, it has been agreed that the consumables allowance for all new fellows will be raised to a maximum of £8,500 per annum. The allowance will be similarly raised for all existing fellows from the start of their next fellowship year.

It was also agreed that, to ensure maximum flexibility in support of research funding, new fellows can make a special application to spend an additional £3,000 on consumables in the first year only, in place of the £3,000 special equipment allowance.

The Governors wish to report that:

- (a) Professor Pedro Lowenstein moved his research group from the University of Wales College of Cardiff to the University of Manchester in February 1996.
- (b) Professor Ian Roberts was granted six months' unpaid leave while he moved his laboratory and research group to the University of Manchester from the University of Leicester.

The Governors warmly congratulate:

- (a) Dr Rosa Beddington, a fellow from 1983 to 1988, who has been appointed to a visiting professorship at the Miller Institute, California.
- (b) Professor Graham Boulnois, a fellow from 1986 to 1991, who was appointed Head of Target Discovery and Infection Research, Zeneca Pharmaceuticals, from January 1996.

- (c) Professor Dennis Burton, a Lister-Jenner fellow from 1985 to 1991, who has been offered a National Institute of Health, USA, merit award for the period 1995 to 2005.
- (d) Dr Anthony Clarke, University of Bristol, who was appointed Reader in the Department of Biochemistry from 1 August 1995.
- (e) Dr John Davey who was appointed Reader in the Department of Cell Biology at the University of Warwick from 1 January 1996 on his transfer from the University of Birmingham.
- (f) Dr Caroline Dive who was appointed Lecturer in the Department of Molecular Pharmacology at the University of Manchester from 1 October 1995.
- (g) Dr Christopher Dowson who was promoted to Reader in the Department of Microbiology at the University of Warwick from 1 March 1996 on his transfer from the University of Sussex.
- (h) Dr Kieran Kirk who has been appointed to the Chair of Biology, Biochemistry and Molecular Biology, at the Australian National University in Canberra from June 1996. Dr Kirk regretfully resigned his fellowship on making this move to Australia.
- (i) Professor Nicholas La Thangue, a Lister-Jenner fellow from 1987 to 1992, on his appointment to the Cathcart Chair of Biochemistry at the University of Glasgow from 1 October 1995, the date of his transfer from the National Institute of Medical Research, Mill Hill.
- (j) Dr Robert Lightowlers, a fellow from 1990 to 1995, who was appointed Lecturer in the Department of Neurology at the University of Newcastle from 1 March 1995.
- (k) Professor Pedro Lowenstein, who was appointed Lister Institute Professor of Molecular Medicine and Gene Therapy at the University of Manchester on 1 July 1995 and moved to Manchester in February 1996.
- (l) Dr James McCormack, a fellow from 1988 to 1990, when he resigned his fellowship to move to the Syntex Research Centre, Edinburgh, on his appointment as Head of the Diabetes Biology Department, Novo Nordisk, Denmark, in November 1995.
- (m) Professor Malcolm McCrae, a fellow from 1984 to 1990, who has been appointed Chairman of the University Graduate School at the University of Warwick.
- (n) Dr Jane McKeating, University of Reading, who won the 1995 Fleming Award from the Society of General Microbiology.

(o) Dr Jennifer Rivett, University of Leicester, on her transfer to the University of Bristol on 27 March, where she will take up a Wellcome Trust University Award on completion of her Lister Institute Research Fellowship on 30 September 1996.

The following Fellows completed their fellowships on 30 September 1995:

Dr Paul Eggleston, University of Liverpool, after 8 years
Professor Barry Potter, University of Bath, after 8 years
Dr Sally Freeman, University of Manchester, after 6 years
Dr Nicholas Holmes, University of Cambridge, after 5 years;

on 30 November 1995:

Dr Robert Lightowlers, University of Newcastle, after 5 years;

on 31 March 1996:

Dr Penelope Stein, University of Cambridge, after completing a six months' extension granted by the Governors.

The Fellowship Weekend at Christ's College, Cambridge, in September 1995 was another successful event and attended by a record number of Members, Fellows and former Fellows. Six Fellows gave talks on their research work:

Dr Wendy Bickmore
Dr Mark Buttner
Dr Anthony Clarke
Dr Sally Freeman
Professor Pedro Lowenstein
Professor Ian Roberts

A seventh speaker, Dr Geoffrey Smith, was a former Lister Institute Research Fellow.

The next meeting, on 13 & 14 September 1996, will again be held at Christ's College, Cambridge.

Research Fellowships 1996

Following a record number of requests for application forms, the number of applications for fellowships to start from 1 October 1996 was 76 (49 in 1995). The previous highest was 67 in 1992. Included in the 76 applications this year were 22 women (19 in 1995), 8 medically qualified candidates, 3 with veterinary qualifications and 2 with pharma-

cology qualifications (5 medically qualified candidates in 1995). The Scientific Advisory Committee short-listed and interviewed 12 candidates. The candidates offered fellowships were:

<i>Name</i>	<i>Place where research will be carried out</i>	<i>Title of research proposal</i>
DERRICK, Jeremy P BA, PhD	Department of Biochemistry and Applied Molecular Biology, UMIST.	Structural studies on outer membrane proteins involved in meningococcal meningitis.
HARDWICK, Kevin G MA, PhD	Biomedical Research Centre, Ninewells Hospital and Medical School, Dundee.	Lipid signalling in cardiovascular disease.
PLATT, Frances M BSc, PhD	The Glycobiology Institute, Department of Biochemistry, University of Oxford.	Substrate deprivation as a strategy for the treatment of the human glycosphingolipid storage disorders.
WALTHO, Jonathan P BSc, PhD	Department of Molecular Biology and Biotechnology, University of Sheffield.	Probing very fast interactions in proteins.
WHITE, Robert J ** BA, PhD	Division of Biochemistry and Molecular Biology, Institute of Biomedical and Life Sciences, University of Glasgow.	The physiological role of retinoblastoma protein in controlling transcription by RNA polymerases I and III.

** Dr White was placed first in order of merit by the Committee and was therefore elected Lister Institute-Jenner Research Fellow.

Conclusion

We look forward with confidence to another successful year for our Fellows and for the Lister Institute. I would like to record my appreciation, and that of the Governors, for the work of the Hon Treasurer, Mr David Hobson, and Mr Geoffrey Sammons on the Investment Sub-Committee which ensures that the Institute's fellowship scheme can continue; to the Scientific Advisory Committee for all their hard work and the skill with which they manage to select candidates who, with hindsight, prove to be academic winners. Finally, on behalf of the Governors, I wish to thank the staff whose hard work ensures the continued smooth operation of the research fellowship scheme and particularly for their extra efforts this year to ensure that there were no administrative or operational problems during the removal to new premises.

Anne McLaren *Chair*

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

The White House, High Road, Bushey Heath, Hertfordshire WD2 3JG

FINANCIAL STATEMENTS

for the year ended 31 December

1996

The Lister Institute of Preventive Medicine
is a company limited by guarantee (England 34479)
and a registered charity (206271)

THE GOVERNING BODY

Dr Anne L McLaren, DBE, MA, DPhil, FRCOG, FRS, *Chair*

D C Hobson, CBE, MA, FCA, *Hon Treasurer*

Professor H J Evans, CBE, PhD, FRCPE, FRSE

Sir James Gowans, CBE, FRCP, FRS

C E Guinness, CVO

The Rt Hon the Earl of Iveagh

Professor Sir Alec Jeffreys, DPhil, FRS

Baroness Lloyd of Highbury, DBE, MD, FRCP, FRCPE

Dr Alan Munro, PhD (*appointed June 1996*)

Professor Sir Keith Peters, MB, BCh, FRCP, FRS

Dr A Robertson, CBE, PhD (*retired June 1996*)

G T Sammons, CBE, MA

Professor Anne E Warner, PhD, FRS

Clerk to the Governors: F K Cowey, MA, BSc, DAS

FINANCIAL REPORT OF THE GOVERNING BODY

for the year ended 31 December 1996

The Institute is a company limited by guarantee and has charitable status.

The Governing Body presents the financial statements of the Institute for the year ended 31 December 1996. A separate report of the Governing Body is prepared.

Results

The results of the Institute for the year ended 31 December 1996 are set out on page 4.

The net income for the financial year is £307,000 (1995: £198,000). This however includes exceptional income of £339,251 (1995: £116,545), details of which are set out in note 2 of the financial statements, which will not arise in future years.

The value of the Institute's cash and investments increased in aggregate by £2.03 million during the year (1995: £3.04 million increase).

Principal activities

The income of the Institute is utilised to support medical research.

Future operations

It is expected that during 1997 a further five Fellowships will be awarded, making a total of twenty-seven, each normally for a period of five years.

Changes in fixed assets

The movements in fixed assets during the year are set out in note 7 to the financial statements.

Governing Body

The members of the Governing Body who served at any time during 1996 are shown on page 1.

Governors' responsibilities

The governors are required by UK company law to prepare financial statements for each financial year that give a true and fair view of the state of affairs of the Institute as at the end of the financial year and of the income and expenditure of the Institute for that period.

The governors confirm that suitable accounting policies have been used and applied consistently and that reasonable and prudent judgements and estimates have been made in the preparation of the financial statements for the year ended 31 December 1996. The governors also confirm that applicable accounting standards have been followed and that the financial statements have been prepared on the going concern basis.

The governors are responsible for keeping proper accounting records, for safeguarding the assets of the Institute and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Auditors

A resolution to reappoint Coopers & Lybrand as auditors will be proposed at the General Meeting.

ANNE McLAREN

Chair

19 June 1997

REPORT OF THE AUDITORS

to the members of The Lister Institute of Preventive Medicine

We have audited the financial statements on pages 4 to 10.

Respective responsibilities of governors and auditors

As described on page 2 the Institute's governors are responsible for the preparation of financial statements. It is our responsibility to form an independent opinion, based on our audit, on those statements and to report our opinion to you.

Basis of opinion

We conducted our audit in accordance with Auditing Standards issued by the Auditing Practices Board.

An audit includes examination, on a test basis, of evidence relevant to the amounts and disclosures in the financial statements. It also includes an assessment of the significant estimates and judgements made by the governors in the preparation of the financial statements, and of whether the accounting policies are appropriate to the Institute's circumstances, consistently applied and adequately disclosed.

We planned and performed our audit so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the financial statements are free from material

misstatement whether caused by fraud or other irregularity or error. In forming our opinion we also evaluated the overall adequacy of the presentation of information in the financial statements.

Opinion

In our opinion the financial statements give a true and fair view of the state of the Institute's affairs at 31 December 1996 and of its net income and total recognised gains for the year then ended and have been properly prepared in accordance with the Companies Act 1985.

COOPERS & LYBRAND

Chartered Accountants and Registered Auditors
London

19 June 1997

STATEMENT OF FINANCIAL ACTIVITIES

for the year ended 31 December 1996

	Notes	1996 £'000	1995 £'000
INCOME AND EXPENDITURE			
Incoming resources			
Investment income	2	1,534	1,389
Interest receivable		137	110
Other income	3	63	52
Total incoming resources		1,734	1,551
Resources expended			
<i>Direct charitable expenditure:</i>			
Grants	6	(1,146)	(1,025)
<i>Other expenditure:</i>			
Expenditure on the management & administration of the charity:			
Investment management fees		(61)	(69)
Salaries	4	(65)	(93)
Pension costs	11	(94)	(88)
Other	5	(61)	(78)
		(281)	(328)
Total resources expended		(1,427)	(1,353)
Net incoming resources for the year		307	198
GAINS/(LOSSES) ON INVESTMENT ASSETS			
Realised	13	383	903
Unrealised	13	1,357	2,170
Net movement in funds		2,047	3,271
Capital and funds at beginning of year		25,187	21,916
Capital and funds at end of year		27,234	25,187

The notes set out on pages 6 to 10 form part of these financial statements.
Auditors' report page 3.

BALANCE SHEET

at 31 December 1996

	Notes	1996 £'000	1995 £'000
Fixed assets			
Tangible assets	7	266	269
Investments	8	<u>26,410</u>	<u>22,649</u>
		<u>26,676</u>	<u>22,918</u>
Current assets			
Debtors	9	141	89
Cash at bank and in hand		<u>1,170</u>	<u>2,898</u>
		<u>1,311</u>	<u>2,987</u>
Creditors:			
amounts falling due within one year	10	<u>(348)</u>	<u>(327)</u>
Net current assets		<u>963</u>	<u>2,660</u>
Total assets less current liabilities		<u>27,639</u>	<u>25,578</u>
Provisions for liabilities and charges	11	<u>(405)</u>	<u>(391)</u>
		<u>27,234</u>	<u>25,187</u>
Capital and funds			
Capital fund	12	794	794
General fund	13	<u>26,440</u>	<u>24,393</u>
		<u>27,234</u>	<u>25,187</u>

The Capital fund and the General fund are unrestricted funds.

These financial statements were approved by the Governing Body on 19 June 1997.

ANNE McLAREN	Members of the
D C HOBSON	Governing Body

The notes set out on pages 6 to 10 form part of these financial statements.

Auditors' report page 3.

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 December 1996

I Principal accounting policies

The financial statements have been prepared in accordance with applicable Accounting Standards in the United Kingdom including the Statement of Recommended Practice "Accounting by Charities" issued in October 1995. A summary of the more important accounting policies is set out below.

(a) Basis of accounting

The financial statements are prepared in accordance with the historical cost convention modified by the revaluation of investments.

(b) Tangible fixed assets

Tangible fixed assets are stated at their purchase price, together with any incidental expenses of acquisition. Provision for depreciation is made so as to write off the cost of tangible fixed assets on a straight line basis over the expected useful life of the fixed assets concerned. The principal annual rate used for this purpose is:

Land and buildings - 2%

Expenditure incurred on minor office equipment is written off on acquisition.

(c) Investments

Investments are shown at market value in the balance sheet. Changes in the market value are included in the general fund in the year in which they arise.

(d) Investment income

Credit is taken for income from fixed asset investments on a cash received basis, except that for gilt-edged securities which is accrued. Investment income is shown net of irrecoverable foreign withholding tax.

(e) Royalties

Royalties are accounted for on an accruals basis.

(f) Foreign currency transactions

Transactions are translated into sterling at the exchange rate ruling on the date of the transaction. Investments held at the year-end are valued at year-end rates of exchange.

(g) Grants

Grants approved for disbursement to the Institute's Research Fellows are accrued as liabilities in the financial statements.

(h) Direct charitable expenditure

Direct charitable expenditure comprises all expenditure directly relating to the objects of the charity.

(i) Supplementary pensions

Provision is made in the financial statements for the total estimated future supplementary pension payments, discounted to reflect the timing of the payments. This represents the estimated amount that would have to be invested, were the supplementary pensions to be separately funded ("the notional investment").

The provision for future supplementary pension costs and the charge to the income and expenditure account are calculated every three years by an independent professionally qualified actuary. In the intervening years the actuary reviews the appropriateness of the provision and charge to income. Any surplus or deficiency in the provision is recognised immediately.

The provision and charge to income have been calculated on the basis of an actuarial valuation as at 1 January 1995, using the following main assumptions:

- the number of persons to whom supplementary pensions are paid will not increase significantly;
- the return on the notional investment will be 9%;
- no increases in pensions are given.

2 Income from fixed asset investments

	1996	1995
	£'000	£'000
Listed investments	<u>1,534</u>	<u>1,389</u>

Income from investments includes an exceptional amount of £339,251 (1995: £116,545) resulting from company share buy-backs

3 Other income

	1996	1995
	£'000	£'000
Rental	1	-
Royalty income	100	83
Share of royalties payable to third parties	<u>(38)</u>	<u>(31)</u>
	<u>63</u>	<u>52</u>

The royalties relate mainly to the DNA probe which is being marketed by a licensee.

4 (a) Emoluments of members of the Governing Body

No member of the Governing Body received any emoluments in respect of services to the Institute during the year (1995: nil).

Travel expenses incurred by members of the Governing Body in connection with their attendance at meetings are reimbursed.

Members of the Governing Body who are also members of the Scientific Advisory Committee received remuneration in relation to their services to the committee. Remuneration totalled £1,330 (1995: £1,600) and was paid to three of the members.

(b) Employee information

The average number of persons employed by the Institute during the year was 3 (1995: 3), all of whom were employed in an administrative capacity. No employee earned £40,000 p.a. or more

(c) Salaries

	1996	1995
	£'000	£'000
Gross salaries	61	85
Employer's national insurance and state pension contributions	<u>4</u>	<u>8</u>
	<u>65</u>	<u>93</u>

5 Other expenditure

	1996	1995
	£'000	£'000
Office expenses	14	11
Travel expenses	8	11
Auditors' remuneration - audit fee	8	7
- accounting services	3	-
Professional fees	3	13
General expenses	<u>25</u>	<u>36</u>
	<u>61</u>	<u>78</u>

6 Grants

Grants of £1,146,000 (1995: £1,025,000) were made during the year. These represent amounts approved for disbursement to the Institute's Research Fellows in respect of the year ended 31 December 1996.

7 Tangible fixed assets

	Land and buildings
	£'000
Historical Cost	
At 1 January 1996	270
Additions	2
Disposals	-
At 31 December 1996	<u>272</u>
Depreciation	
At 1 January 1996	1
Charge for year	5
Disposals	-
At 31 December 1996	<u>6</u>
Net book value	
At 31 December 1996	<u>266</u>
At 31 December 1995	<u>269</u>

8 Investments

Investments comprise listed investments which are valued at middle market quotations ruling at the year-end. All investments are in UK equities and Government bonds.

	1996	1995
	£'000	£'000
Market value at beginning of year	22,649	21,051
Purchases during the year at cost	7,018	9,127
Proceeds of sales during the year	(5,022)	(10,602)
Changes in market value of investments held at 31 December 1996	<u>1,765</u>	<u>3,073</u>
Market value at end of year	<u>26,410</u>	<u>22,649</u>
Historical cost end of year	<u>18,667</u>	<u>16,263</u>

Significant shareholdings, exceeding 5% of the value of investments, exist in the following:

	1996	1995
	£'000	£'000
Shell Transport & Trading Co	<u>1,669</u>	<u>1,406</u>

9 Debtors

	1996 £'000	1995 £'000
Prepayments and accrued income	76	63
Other debtors	65	26
	<u>141</u>	<u>89</u>

**10 Creditors:
amounts falling due
within one year**

	1996 £'000	1995 £'000
Accruals	346	324
Other creditors including taxation and social security	2	3
	<u>348</u>	<u>327</u>

11 Provision for liabilities and charges

This represents a provision for future supplementary pension payments. Supplementary pensions were being paid in respect of thirty ex-employees at 31 December 1996 (1995: thirty), based on their salary and length of service. The supplementary pensions are unfunded, with payments made out of the Institute's funds as they fall due. To date, these supplementary pensions have been increased in line with public sector pensions, but no commitments have been made to increase the future supplementary pension payments, this being entirely at the discretion of the members of the Governing Body.

Movements in the provision during the year were as follows:

	1996 £'000	1995 £'000
Provision at beginning of year	391	378
Charge to income and expenditure account	94	88
Pensions paid	<u>(80)</u>	<u>(75)</u>
Provision at end of year	<u>405</u>	<u>391</u>

12 Capital Fund

	1996 £'000	1995 £'000
Donations and endowments have been received to date from:		
Dr Ludwig Mond (1893)	2	2
Berridge Trustees (1893-1898)	46	46
Worshipful Company of Grocers (1894 and 1969-1973)	15	15
Lord Iveagh (1900)	250	250
Lord Lister's Bequest (1913-1923)	19	19
William Henry Clarke Bequest (1923-1926)	7	7
Rockefeller Foundation (1935-1936)	3	3
Wolfson Foundation (1969-1973)	300	300
Jenner Memorial Studentship Fund (1984)	48	48
Professor William Bulloch Bequest (1990)	6	6
Other donations and legacies (1891-1996)	72	72
Centenary donations: Coopers & Lybrand	5	5
Guinness plc	5	5
ICI plc	5	5
Worshipful Company of Grocers	5	5
Coutts & Co	5	5
MacFarlanes	1	1
	<u>794</u>	<u>794</u>

13 General fund

	Realised £'000	Unrealised £'000	Total £'000
Balance at beginning of year	18,007	6,386	24,393
Movement in value of fixed asset investments	383	1,357	1,740
Surplus for the year	307	-	307
Balance at end of year	<u>18,697</u>	<u>7,743</u>	<u>26,440</u>

14 Financial commitments

The Institute is committed to paying the salaries and expenses of the present twenty-seven Research Fellows (1995: twenty-seven) over the remainder of their fellowship period (maximum five years). The amounts involved, assuming a 4% per annum increase in real terms, are as follows:

	1996 £'000	1995 £'000
Payable within one year	1,403	1,255
Payable between two to five years	<u>2,402</u>	<u>2,412</u>
	<u>3,805</u>	<u>3,667</u>

In addition to the above commitments, it is the Institute's intention to award five new Fellowships annually (each for a period of five years) for the foreseeable future.

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

The White House, High Road, Bushey Heath, Hertfordshire WD2 3JG

REPORT OF THE GOVERNING BODY

1997

The Lister Institute of Preventive Medicine
is a company limited by guarantee (*England 34479*)
and a registered charity (*206271*)

THE GOVERNING BODY

Dr Anne L McLaren, DBE, MA, DPhil, FRCOG, FRS, *Chair*

David C Hobson, CBE, MA, FCA, *Hon Treasurer*

Professor H John Evans, CBE, PhD, FRCPE, FRSE

Sir James Gowans, CBE, FRCP, FRS

C Edward Guinness, CVO

The Rt Hon the Earl of Iveagh

Professor Sir Alec Jeffreys, DPhil, FRS

Baroness Lloyd of Highbury, DBE, MD, FRCP, FRCPE

Dr Alan Munro, PhD (*appointed June 1996*)

Professor Sir Keith Peters, MB, BCh, FRCP, FRS

Geoffrey T Sammons, CBE, MA

Professor Anne E Warner, PhD, FRS

Dr Alan Robertson, CBE, PhD (*retired June 1996*)

Secretary, and Clerk to the Governors:

F K Cowey, MA, BSc, DAS

Solicitors

Macfarlanes
10 Norwich Street
London, EC4A 1BD

Auditors

Coopers & Lybrand
1 Embankment Place
London, WC2 6NN

SCIENTIFIC ADVISORY COMMITTEE

Sir James Gowans, CBE, FRCP, FRS, *Chair*

Professor Leszek Borysiewicz, PhD, FRCP

Professor Sir Alec Jeffreys, DPhil, FRS

Professor Andrew J McMichael, MB, BChir, PhD, FRCP, FRS

Professor Richard N Perham, PhD, ScD, FRS

Professor Jean O Thomas, CBE, ScD, FRS

Professor Cheryll Tickle, MA, PhD

ANNUAL GENERAL MEETING 19 JUNE 1997

REPORT OF THE GOVERNING BODY

Governing Body

The Governing Body would like to congratulate Dame June Lloyd on her elevation to the peerage in the 1996 Birthday Honours as Baroness Lloyd of Highbury, and Professor John Evans on the award of the CBE in the New Year's Honours for services to medical research.

The Governing Body reports that Dr Alan Robertson retired from the Governing Body in June 1996 and was replaced by Dr Alan Munro, Master of Christ's College, Cambridge. The Governing Body wishes to express its appreciation of Dr Robertson's years of enthusiastic support and his industrial experience which was so valuable when it came to filing DNA technology patents. Dr Munro will also bring valuable industrial experience to the Governing Body, having been Co-founder and Scientific Director of Cantab Pharmaceuticals, a small entrepreneurial biotechnology company, following an earlier academic career. He is also a director of the Biosciences Innovation Centre and of the Babraham Institute.

The Governing Body also reports, with sadness, the death of Dr Alan Robertson in January 1997 and the deaths in 1996 of Professor Geoffrey Dawes and Professor Albert Neuberger, both former Chairmen of the Lister Institute as well as eminent scientists. Professor Neuberger was instrumental in resolving the Lister Institute's financial problems and establishing the Lister Institute Research Fellowship scheme. Professor Dawes was the first Chairman of the Scientific Advisory Committee. It was his expertise in establishing procedures for the selection of fellows, and subsequently in guiding the Institute itself, that led to the Lister Institute Research Fellowships becoming the prestigious awards that they are today. The Governing Body, on behalf of the Institute, records its appreciation of the contributions made by Dr Robertson, Professor Dawes and Professor Neuberger, and expresses its condolences to their families.

Scientific Advisory Committee

The Governing Body reports that Professor Sir Keith Peters retired by rotation from the Committee in June 1996. He was replaced by Professor Leszek Borysiewicz, Professor of Medicine at the University of Wales College of Medicine, Cardiff, a former Lister Institute Research Fellow.

Institute Membership

The five former fellows welcomed into membership at the beginning of 1997 following completion of their fellowships were:

Dr Wendy Bickmore	Professor Steven Homans
Dr Julian Blow	Dr Jennifer Rivett
Dr Christopher Dowson	

The Governors are also pleased to welcome to Membership two people with long-standing associations with the Institute:

Mr Peter Allen, formerly of Coopers & Lybrand, and
Mr James Buckley, formerly of Macfarlanes.

Their experience will be of value to the Institute as it continues to evolve.

Financial Matters

(a) Financial Statements

The financial statements for 1996 show a capital and funds balance at the year-end of £27,234,000 (1995: £25,187,000). The value of the Institute's cash and investments increased by approximately £2,030,000 during the year. A total return on investments for the year of 14.2% was achieved with a gross investment income of £1,530,000 (1995: £3,040,000 increase, 21.3% return and £1,390,000 income). The net income for the year was £307,000 (1995: £198,000); the increase arose from non-recurring items of £339,000 (1995: £117,000).

The policy of the Governors is to maintain adequate financial resources to provide income to meet current and future commitments as they fall due. Current commitments are estimated at £3,805,000 at current costs, representing salaries and expenses of the present research fellows over the remainder of their fellowship period (1995: £3,667,000). Future commitments will be incurred from the annual award of five-year senior research fellowships. At present it appears that the reserves and investment income are sufficient to meet these commitments but that it would not be prudent to increase the number of fellowship awards on an annual basis. However, the receipt of exceptional income, as in 1995 and 1996, provides the option of granting six fellowships on an occasional basis if the quality of the applicants merits it.

(b) Investment Policy

The Investment Sub-Committee of the Governing Body, consisting of the Hon Treasurer, Mr Geoffrey Sammons and the Secretary, together with a Director, Mr Richard Fitzalan Howard and the Fund Manager, Mr Christopher Kennedy, of Robert Fleming Investment Management, meets quarterly and discusses the Institute's investment portfolio. The strategy being pursued is to achieve overall income growth through increases in both dividends and capital value of the assets while pursuing a low risk investment policy. Equities are bought primarily in large UK companies while geographical spread is obtained through investment in multi-national companies. The proportions held in the various investments at year-end under the control of Robert Fleming Investment Management were UK equities 75%, UK bonds 25%, with cash holdings of less than 1%. (In 1995 the holdings were UK equities 68%, UK bonds 24%, cash 8%.)

New Office Accommodation

The new offices at The White House, Bushey Heath, have now been occupied for over a year and half and have proved to be very suitable for the Institute's purposes. Financial monitoring for the first year showed a slight decrease in overall expenditure, largely due to the fact that a £2,000 ground rent no longer has to be paid. Since October 1996 the upper floor has been leased to Scoll Methods, a small computer-based training company, providing a revenue of £5,000 per annum.

Cellmark Diagnostics

The Governors report that 1996 was a very good year for Cellmark UK. Much of this was due to the award of a contract by the Child Support Agency for paternity testing. This contract will continue until 1998 and Cellmark has the option of extending it for a total of two further years. Revenue from the USA was down following intensive price competition for testing and the sale of the business to Life Codes which has left Cellmark's American business largely confined to the sale of probes. Overall the revenue earned by Cellmark was higher than the previous two years and this is also reflected by the income gained by the Institute. It is anticipated that in the future competition from PCR technology and the need to automate testing will lead to a decline in the use of the DNA fingerprinting technology arising from the Institute's patents. Nevertheless, the revenue received by the Institute should continue to pay for a Lister Research Fellow for one or two more years.

National Lotteries Charity Board

A third grants programme launched in the summer of 1996 covered health, disability and care and included medical research. After some consideration, the Governing Body decided that, because of the specific terms and conditions, the chances of a successful application were very small, while making an application would incur a considerable amount of work and cost. Consequently, in common with many other medical research charities, the Institute did not apply for funding. As a result of the poor response, the NLCB is seeking feedback from the Association of Medical Research Charities as to reasons for this low take-up prior to any further grant rounds being considered.

Research Fellowship Scheme

The research fellowship scheme continues to be a success as is shown by the increasing number of application form requests and the steadily increasing number of applications being received. One measure of the competition for fellowships and of the insight of the Scientific Advisory Committee members is the number of prestigious appointments made to our current and former Research Fellows. In particular, the Governors wish to warmly congratulate:

- (a) Dr Judith Armitage, a fellow from 1982 to 1985, on her appointment as Professor in the Microbiology Unit in the Department of Biochemistry at the University of Oxford.
- (b) Dr Wendy Bickmore, a fellow from 1991 to 1996, who has been appointed the 1997 Genetical Society Balfour Lecturer.
- (c) Dr Mark Buttner, University of East Anglia, on his appointment as Senior Scientific Officer in the Nitrogen Fixation Laboratory at the John Innes Centre. This appointment will come into effect on completion of his fellowship in December 1998.
- (d) Dr Thomas Evans, Royal Postgraduate Medical School, London, who has been promoted to Senior Lecturer and Hon Consultant with effect from 1 April 1996.
- (e) Dr Steven Homans, University of St Andrews, who was appointed Professor of Biophysical Chemistry with effect from 1 October 1996 when his fellowship was completed.
- (f) Dr. Prem Kumar, University of Birmingham, who has been promoted to Senior Lecturer with effect from 1 October 1996.

(g) Professor Simon Kroll, a fellow from 1986 to 1991, who has been appointed a Fellow of the Royal College of Physicians.

(h) Dr Jane McKeating, University of Reading, who has been promoted to Reader in the School of Animal and Microbial Sciences with effect from 1 October 1996.

(i) Dr Penny Stein, a fellow from 1990 to 1994 and for six months from October 1995, who has been awarded the 1996 Professor's Prize in Clinical Biochemistry.

(j) Professor Stephen Yeaman, a fellow from 1984 to 1989, who has been elected a Fellow of the Royal Society of Edinburgh.

The Governors wish to report that:

(a) Dr Anthony Berendt, John Radcliffe Hospital, Oxford, was given permission to change his area of research from tropical medicine (malaria) to problems of chronic infection.

(b) Dr Catherine Boulter, Dr Caroline Dive and Dr Fran Platt have all been granted maternity leave and corresponding extensions to their fellowships.

(c) Dr Gwyn Gould and Dr Catherine Boulter have been granted one and two year extensions to their fellowships respectively in order that they can fulfill the potential of their research by exploiting access to new techniques and other resources.

(d) Dr David Kipling moved from the MRC's Human Genetics Unit at Edinburgh to the University of Wales College of Medicine, Cardiff, in October 1996.

The following Fellows completed their fellowships in 1996:

on 31 August 1996:

Dr Julian Blow, ICRF, after 5 years

Dr Christopher Dowson, University of Warwick, after 5 years;

on 30 September 1996:

Dr Wendy Bickmore, MRC Human Genetics Unit Edinburgh, after 5 years

Dr Steven Homans, University of St Andrews, after 5 years, and

Dr Jennifer Rivett, University of Bristol, after 7 years.

The Governing Body reports that Dr Kevin Hardwick, of the Institute of Cell and Molecular Biology, University of Edinburgh, who was offered a fellowship in 1996, regretfully declined the offer. The fellowship was subsequently offered to and accepted by Dr Paul Schofield, Department of Medicine, University of Cambridge. Dr Schofield's research project is entitled 'Somatic gene therapy for metabolic liver disease: the urea cycle disorders'. The commencement of his fellowship was deferred until May 1997 in order for him to complete a period of clinical training at Addenbrooke's Hospital.

The Fellowship Weekend at Christ's College, Cambridge, in September 1996 was again highly successful. Dr Victoria Allan, Dr John Davey, Dr Christopher Hunter and Dr Jane McKeating all gave presentations for the first time. Dr Julian Blow, Dr Christopher Dowson, Dr Steven Homans and Dr Anthony Maxwell were all speaking for a second time and were able to present research data accumulated over several years. The ninth speaker, Professor Jeffrey Almond, a former fellow, by popular request switched from his prepared subject and gave an impromptu presentation on BSE. The next Weekend meeting will be held at Christ's College, Cambridge, on 5 & 6 September 1997.

The Lister Institute Research Fellowship scheme has now completed 15 years of operation. Over this period 69 fellowships have been awarded and 35 different institutions, largely universities, have hosted Lister Institute Research fellows. Former fellows are currently at 29 different locations, including three overseas, and the 27 current fellows are at 17 different research establishments. Most research fellows have been successful in obtaining promotions and 45% of former fellows hold professorial chairs. 13 fellows have resigned on obtaining new appointments. Consistently throughout the 15-year period, studies on molecular biology, molecules and cells have been the most popular topics for research. In 1982, the first-year commitment for the five fellowships awarded was £84,000. In 1996 the first-year commitment for the five fellowships awarded was £209,393. Taking into account inflation, and using current (1996) costs, in 1982 the cost per fellow for the first year was equivalent to £32,063 compared to the actual 1996 cost of £41,879 per fellow.

Research Fellowships 1997

Following a record number of requests for application forms, the number of applications approved for consideration by the Scientific Advisory Committee to start on 1 October 1997 was 69 (76 in 1996). The reduction in numbers was solely due to a

stricter application of eligibility criteria. Included in the 69 applications were 28 women (22 in 1996), 7 medically qualified candidates and one with pharmacology qualifications (8 in 1996). 18 of the 69 were from tenured research staff and 13 were from foreign nationals. The Scientific Advisory Committee shortlisted and interviewed 12 candidates. The candidates offered fellowships were:

<i>Name</i>	<i>Place where research will be carried out</i>	<i>Title of research proposal</i>
AYSCOUGH, Kathryn Rachel BA, PhD	Department of Biochemistry, Medical Sciences Institute, University of Dundee.	The role of the actin cytoskeleton in the development of cell polarity in the budding yeast, <i>Saccharomyes cerevisiae</i> .
CARMICHAEL, Andrew James PhD, MRCP	Department of Medicine, Addenbrooke's Hospital, Cambridge.	Cytotoxic T lymphocyte responses in human immunodeficiency virus infection: induction and maintenance of CD8+ T cell memory in HIV pathogenesis.
CUNLIFFE, Vincent Trevor BSc, PhD	Department of Biomedical Science, University of Sheffield.	Polycomb group and trithorax group homologues in early vertebrate development.
NOBES, Catherine Diane BSc, PhD	Laboratory for Molecular Cell Biology, University College, London.	The role of RhoGTPases in regulating neuronal growth cone morphology and guidance.
SHARROCKS, Andrew David BSc, PhD	Department of Biochemistry and Genetics, University of Newcastle-upon- Tyne.	Eukaryotic transcriptional co-activator/co-repressor proteins.
ZERNICKA-GOETZ, Magdalena MSc, PhD	Wellcome/CRC Institute, University of Cambridge.	Spatial patterning and cell fate determination in the early mouse embryo.

Note: In the absence of a single outstanding candidate this year, no Lister Institute-Jenner Research Fellowship was awarded and, consequently, no concomitant Gordon Roderick Travel Scholarship.

Conclusion

We look forward with confidence to another successful year for our fellows and for the Lister Institute. I would like to thank the Governors, the members of the Scientific Advisory Committee and the staff of the Institute for their continued hard work and support, as a result of which the Institute continues to operate very

successfully. I would also like to express my thanks to the fellows and former fellows whose hard work and success in their field of research have contributed so much over the years to the reputation and prestige associated with Lister Institute Research Fellowships.

Finally, I would like to express my thanks once again to those former governors, who can no longer be with us, for the important contributions they made to the setting up and running of the Institute in the early days of the fellowship scheme when care and guidance were so important.

Anne McLaren Chair

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

The White House, High Road, Bushey Heath, Hertfordshire WD2 3JG

FINANCIAL STATEMENTS

for the year ended 31 December

1997

The Lister Institute of Preventive Medicine
is a company limited by guarantee (*England 34479*)
and a registered charity (*206271*)



THE GOVERNING BODY

Dr Anne L McLaren, DBE, MA, DPhil, FRCOG, FRS, *Chair*

Peter W Allen MA, FCA, CIMgt, *Hon Treasurer (appointed April 1998)*

G James M Buckley *(appointed July 1997)*

Professor H John Evans, CBE, PhD, FRCPE, FRSE

C Edward Guinness, CVO

The Rt Hon the Earl of Iveagh

Professor Sir Alec Jeffreys, DPhil, FRS

Dr Alan Munro, PhD

Professor Sir Keith Peters, MB, BCh, FRCP, FRS

Professor William V Shaw, MD *(appointed June 1997)*

Professor Anne E Warner, PhD, FRS

Sir James Gowans, CBE, FRCP, FRS *(retired June 1997)*

Geoffrey T Sammons, CBE, MA *(retired July 1997)*

David C Hobson, CBE, MA, FCA, *Hon Treasurer (retired April 1998)*

Baroness Lloyd of Highbury, DBE, MD, FRCP, FRCPE *(retired April 1998)*

Clerk to the Governors: F Keith Cowey, MA, BSc, DAS

FINANCIAL REPORT OF THE GOVERNING BODY

for the year ended 31 December 1997

The Institute is a company limited by guarantee and has charitable status.

The Governing Body presents the financial statements of the Institute for the year ended 31 December 1997. A separate report of the Governing Body is prepared.

Results

The results of the Institute for the year ended 31 December 1997 are set out on page 4.

The net income for the financial year is £51,000 (1996: £307,000). The comparative figures included exceptional income of £339,251 resulting from company share buy-backs.

The value of the Institute's cash and investments increased in aggregate by £5.61 million during the year (1996: £2.03 million increase).

Principal activities

The income of the Institute is utilised to support medical research.

Future operations

It is expected that during 1998 a further five Fellowships will be awarded, making a total of twenty-eight, each normally for a period of five years.

Changes in fixed assets

The movements in fixed assets during the year are set out in note 7 to the financial statements.

Reserves

The Institute, which does not seek to raise funds from the public, depends primarily on investment income to meet its pension payments, administrative expenditure and research fellowship awards. Costs tend to increase year by year due to inflation and other salary changes.

The Governing Body wishes to award as many fellowships as it can prudently grant to candidates of an appropriate standard. Therefore it seeks to maximise its investment performance by prudent management.

The performance of the investment portfolio is reviewed by the Investment Sub-Committee which has quarterly meetings with the investment managers and receives regular reports.

Reserves are necessary to safeguard the Institute against any shortfalls of net income which may arise and to enable the Institute to continue to award five fellowships for five years annually and to authorise the extension of certain fellowships and, in some years, an additional fellowship award.

Governing Body

The members of the Governing Body who served at any time during 1997 are shown on page 1.

Governors' responsibilities

The governors are required by UK company law to prepare financial statements for each financial year that give a true and fair view of the state of affairs of the Institute as at the end of the financial year and of its income and expenditure for that period.

The governors confirm that suitable accounting policies have been used and applied consistently and reasonable and prudent judgements and estimates have been made in the preparation of the financial statements for the year ended 31 December 1997. The governors also confirm that applicable accounting standards have been followed and that the financial statements have been prepared on the going concern basis.

The governors are responsible for keeping proper accounting records, for safeguarding the assets of the Institute and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Auditors

A resolution to reappoint Coopers & Lybrand as auditors will be proposed at the General Meeting.

DR ANNE L McLAREN

Chair

18 June 1998

REPORT OF THE AUDITORS

to the members of The Lister Institute of Preventive Medicine

We have audited the financial statements on pages 4 to 10.

Respective responsibilities of governors and auditors

As described on page 2 the Institute's governors are responsible for the preparation of financial statements. It is our responsibility to form an independent opinion, based on our audit, on those statements and to report our opinion to you.

Basis of opinion

We conducted our audit in accordance with Auditing Standards issued by the Auditing Practices Board.

An audit includes examination, on a test basis, of evidence relevant to the amounts and disclosures in the financial statements. It also includes an assessment of the significant estimates and judgements made by the governors in the preparation of the financial statements, and of whether the accounting policies are appropriate to the Institute's circumstances, consistently applied and adequately disclosed.

We planned and performed our audit so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the financial statements are free from material

misstatement whether caused by fraud or other irregularity or error. In forming our opinion we also evaluated the overall adequacy of the presentation of information in the financial statements.

Opinion

In our opinion the financial statements give a true and fair view of the state of the Institute's affairs at 31 December 1997 and of its net income and total recognised gains for the year then ended and have been properly prepared in accordance with the Companies Act 1985.

COOPERS & LYBRAND
Chartered Accountants and Registered Auditors
London

18 June 1998

STATEMENT OF FINANCIAL ACTIVITIES

for the year ended 31 December 1997

	Notes	1997 £'000	1996 £'000
INCOME AND EXPENDITURE			
Incoming resources			
Investment income	2	1,366	1,534
Interest receivable		80	137
Other income	3	103	63
Total incoming resources		1,549	1,734
Resources expended			
<i>Direct charitable expenditure:</i>			
Grants	6	(1,181)	(1,146)
<i>Other expenditure:</i>			
Expenditure on the management & administration of the charity:			
Investment management fees		(83)	(61)
Salaries	4	(70)	(65)
Pension costs	11	(112)	(94)
Other	5	(52)	(61)
		(317)	(281)
Total resources expended		(1,498)	(1,427)
Net incoming resources for the year		51	307
GAINS/(LOSSES) ON INVESTMENT ASSETS			
Realised	13	949	383
Unrealised	13	4,476	1,357
Net movement in funds		5,476	2,047
Capital and funds at beginning of year		27,234	25,187
Capital and funds at end of year		32,710	27,234

The notes set out on pages 6 to 10 form part of these financial statements.
Auditors' report page 3.

BALANCE SHEET

at 31 December 1997

	Notes	1997 £'000	1996 £'000
Fixed assets			
Tangible assets	7	260	266
Investments	8	31,810	26,410
		<u>32,070</u>	<u>26,676</u>
Current assets			
Debtors	9	156	141
Cash at bank and in hand		1,377	1,170
		<u>1,533</u>	<u>1,311</u>
Creditors:			
amounts falling due within one year	10	(458)	(348)
Net current assets		<u>1,075</u>	<u>963</u>
Total assets less current liabilities		<u>33,145</u>	<u>27,639</u>
Provisions for liabilities and charges	11	(435)	(405)
		<u>32,710</u>	<u>27,234</u>
Capital and funds			
Permanent endowment capital fund	12	794	794
Unrestricted general fund	13	31,916	26,440
		<u>32,710</u>	<u>27,234</u>

These financial statements were approved by the Governing Body on 18 June 1998.

DR ANNE L McLAREN
PETER W ALLEN

Members of the
Governing Body

The notes set out on pages 6 to 10 form part of these financial statements.
Auditors' report page 3.

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 December 1997

I Principal accounting policies

The financial statements have been prepared in accordance with applicable Accounting Standards in the United Kingdom including the Statement of Recommended Practice "Accounting by Charities" issued in October 1995. A summary of the more important accounting policies is set out below.

(a) Basis of accounting

The financial statements are prepared in accordance with the historical cost convention modified by the revaluation of investments.

(b) Tangible fixed assets

Tangible fixed assets are stated at their purchase price, together with any incidental expenses of acquisition. Provision for depreciation is made so as to write off the cost of tangible fixed assets on a straight line basis over the expected useful life of the fixed assets concerned. The principal annual rate used for this purpose is:

Land and buildings 2%

Expenditure incurred on minor office equipment is written off on acquisition.

(c) Investments

Investments are shown at market value in the balance sheet. Changes in the market value are included in the general fund in the year in which they arise.

(d) Royalties

Royalties are accounted for on an accruals basis.

(e) Foreign currency transactions

Transactions are translated into sterling at the exchange rate ruling on the date of the transaction. Investments held at the year-end are valued at year-end rates of exchange.

(f) Grants

Grants approved for disbursement in the year to the Institute's Research Fellows are accrued as liabilities in the financial statements.

(g) Direct charitable expenditure

Direct charitable expenditure comprises all expenditure directly relating to the objects of the charity.

(h) Supplementary pensions

Provision is made in the financial statements for the total estimated future supplementary pension payments, discounted to reflect the timing of the payments. This represents the estimated amount that would have to be invested, were the supplementary pensions to be separately funded ("the notional investment").

The provision for future supplementary pension costs and the charge to the income and expenditure account are calculated every three years by an independent professionally qualified actuary. Any surplus or deficiency in the provision is recognised immediately.

The provision and charge to income have been calculated on the basis of an actuarial valuation as at 1 January 1995, using the following main assumptions:

- the number of persons to whom supplementary pensions are paid will not increase significantly;
- the return on the notional investment will be 9%;

2 Income from fixed asset investments

	1997	1996
	£'000	£'000
Listed investments	<u>1,366</u>	<u>1,534</u>

3 Other income

	1997	1996
	£'000	£'000
Rental	5	1
Royalty income	138	100
Share of royalties payable to third parties	(40)	(38)
	<u>103</u>	<u>63</u>

The royalties relate mainly to the DNA probe which is being marketed by a licensee.

4 (a) Emoluments of members of the Governing Body

No member of the Governing Body received any emoluments in respect of services to the Institute during the year (1996: nil).

Travel expenses incurred by members of the Governing Body in connection with their attendance at meetings are reimbursed.

Members of the Governing Body who are also members of the Scientific Advisory Committee received remuneration in relation to their services to the committee. Remuneration totalled £900 (1996: £1,330) and was paid to three of the members.

(b) Employee information

The average number of persons employed by the Institute during the year was 3 (1996: 3), all of whom were employed in an administrative capacity. No employee earned £40,000 p.a. or more.

(c) Salaries

	1997	1996
	£'000	£'000
Gross salaries	65	61
Employer's national insurance and state pension contributions	5	4
	<u>70</u>	<u>65</u>

5 Other expenditure

	1997	1996
	£'000	£'000
Office expenses	13	14
Travel expenses	6	8
Auditors' remuneration - audit fee	8	8
- accounting services	0	3
Professional fees	1	3
General expenses	24	25
	<u>52</u>	<u>61</u>

6 Grants

Grants of £1,181,000 (1996: £1,146,000) were made during the year. These represent amounts approved for disbursement to the Institute's Research Fellows in respect of the year ended 31 December 1997.

7 Tangible fixed assets

	Land and buildings
Cost	£'000
At 1 January 1997	272
Additions	0
Disposals	0
At 31 December 1997	<u>272</u>
Depreciation	
At 1 January 1997	6
Charge for year	6
Disposals	0
At 31 December 1997	<u>12</u>
Net book value	
At 31 December 1997	<u>260</u>
At 31 December 1996	<u>266</u>

8 Investments

Investments comprise listed investments which are valued at middle market quotations ruling at the year-end. All investments are in UK equities and Government bonds.

	1997	1996
	£'000	£'000
Market value at beginning of year	26,410	22,649
Purchases during the year at cost	3,586	7,018
Proceeds of sales during the year	(3,614)	(5,022)
Changes in market value of investments held at 31 December 1997	<u>5,428</u>	<u>1,765</u>
Market value at end of year	<u>31,810</u>	<u>26,410</u>
Historical cost end of year	<u>19,591</u>	<u>18,667</u>

Significant shareholdings, exceeding 5% of the value of investments, exist in the following:

	1997	1996
	£'000	£'000
Shell Transport & Trading Company plc	2,178	1,669
Prudential Corporation plc	1,652	1,106

9 Debtors

	1997 £'000	1996 £'000
Prepayments and accrued income	93	76
Other debtors	63	65
	<u>156</u>	<u>141</u>

10 Creditors:

*amounts falling due
within one year*

	1997 £'000	1996 £'000
Accruals	456	346
Other creditors including taxation and social security	2	2
	<u>458</u>	<u>348</u>

11 Provision for liabilities and charges

This represents a provision for future supplementary pension payments in respect of ex-employees, based on their salary and length of service. The supplementary pensions are unfunded, with payments made out of the Institute's funds as they fall due. These supplementary pensions are increased annually in line with public sector pensions.

Movements in the provision during the year were as follows:

	1997 £'000	1996 £'000
Provision at beginning of year	405	391
Charge to income and expenditure account	112	94
Pensions paid	(82)	(80)
Provision at end of year	<u>435</u>	<u>405</u>

See overleaf for Notes 12 to 14

12 Capital Fund

	1997 £'000	1996 £'000
Donations and endowments have been received to date from:		
Dr Ludwig Mond (1893)	2	2
Berridge Trustees (1893-1898)	46	46
Worshipful Company of Grocers (1894 and 1969-1973)	15	15
Lord Iveagh (1900)	250	250
Lord Lister's Bequest (1913-1923)	19	19
William Henry Clarke Bequest (1923-1926)	7	7
Rockefeller Foundation (1935-1936)	3	3
Wolfson Foundation (1969-1973)	300	300
Jenner Memorial Studentship Fund (1984)	48	48
Professor William Bulloch Bequest (1990)	6	6
Other donations and legacies (1891-1997)	72	72
Centenary donations: Coopers & Lybrand	5	5
Guinness plc	5	5
ICI plc	5	5
Worshipful Company of Grocers	5	5
Coutts & Co	5	5
MacFarlanes	1	1
	<u>794</u>	<u>794</u>

13 Unrestricted general fund

	Realised £'000	Unrealised £'000	Total £'000
Balance at beginning of year	18,697	7,743	26,440
Movement in value of fixed asset investments	949	4,476	5,425
Surplus for the year	51	-	51
Balance at end of year	<u>19,697</u>	<u>12,219</u>	<u>31,916</u>

14 Financial commitments

The Institute is committed to paying the salaries and expenses of the present twenty-eight Research Fellows (1996: twenty-seven) over the remainder of their fellowship period (maximum five years). The amounts involved, assuming a 4% per annum increase in real terms, are as follows:

	1997 £'000	1996 £'000
Payable within one year	1,248	1,211
Payable between two to five years	2,769	2,594
	<u>4,017</u>	<u>3,805</u>

In addition to the above commitments, it is the Institute's intention to award five new Fellowships annually (each for a period of five years) for the foreseeable future.

Auditors' report page 3

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

The White House, High Road, Bushey Heath, Hertfordshire WD2 3JG

REPORT OF THE GOVERNING BODY

1998

The Lister Institute of Preventive Medicine
is a company limited by guarantee (*England 34479*)
and a registered charity (*206271*)

THE GOVERNING BODY

Dr Anne L McLaren, DBE, MA, DPhil, FRCOG, FRS. *Chair*

Peter W Allen MA, FCA, CIMgt, *Hon Treasurer (appointed April 1998)*

G James M Buckley (*appointed July 1997*)

Professor H John Evans, CBE, PhD, FRCPE, FRSE

C Edward Guinness, CVO

The Rt Hon the Earl of Iveagh

Professor Sir Alec Jeffreys, DPhil, FRS

Dr Alan Munro, PhD

Professor Sir Keith Peters, MB, BCh, FRCP, FRS

Professor William V Shaw, MD (*appointed June 1997*)

Professor Anne E Warner, PhD, FRS

David C Hobson, CBE, MA, FCA, *Hon Treasurer (retired April 1998)*

Sir James Gowans, CBE, FRCP, FRS (*retired June 1997*)

Baroness Lloyd of Highbury, DBE, MD, FRCP, FRCPE (*retired April 1998*)

Geoffrey T Sammons, CBE, MA (*retired July 1997*)

Secretary, and Clerk to the Governors: F Keith Cowey, MA, BSc, DAS

Solicitors

Macfarlanes
10 Norwich Street
London, EC4A 1BD

Auditors

Coopers & Lybrand
1 Embankment Place
London, WC2N 6NN

SCIENTIFIC ADVISORY COMMITTEE

Professor William V Shaw, MD, *Chair (appointed June 1997)*

Professor Leszek Borysiewicz, PhD, FRCP

Professor Andrew J McMichael, MB, BChir, PhD, FRCP, FRS

Professor Nicholas D Hastie, PhD, FRSE (*appointed June 1997*)

Professor Richard N Perham, PhD, ScD, FRS

Professor Jean O Thomas, CBE, ScD, FRS

Professor Cheryl Tickle, MA, PhD

Sir James Gowans, CBE, FRCP, FRS (*retired June 1997*)

Professor Sir Alec Jeffreys, DPhil, FRS (*retired June 1997*)

ANNUAL GENERAL MEETING 18 JUNE 1998

REPORT OF THE GOVERNING BODY

Governing Body

The last year has seen a significant change in the Governing Body with four Governors retiring.

Mr David Hobson, the former Honorary Treasurer, retired after twelve years service: twelve years which have seen a significant growth in the Institute's portfolio and a clear investment strategy laid down and followed with very beneficial results. Mr Hobson has been replaced on the Governing Body by Mr Peter Allen, a former deputy Chairman and Director of Coopers and Lybrand. He brings valuable experience of the city and finance to the Governing Body.

Mr Geoffrey Sammons, a former city solicitor, has also retired after ten years' service on the Governing Body and he has been replaced by Mr James Buckley who served as the Institute's solicitor at Macfarlanes prior to his recent retirement. Mr Buckley was actively involved in the filing of the patents which are now exploited by Cellmark and his appointment represents continuity within the Institute.

Sir James Gowans retired following the completion of three years as Chairman of the Scientific Advisory Committee and has been replaced by Professor W V Shaw of the University of Leicester, a former member of the Institute's Scientific Advisory Committee. He brings a wealth of experience of the academic community to the Governing Body.

It is also with regret that the Governing Body accepted the resignation of Baroness June Lloyd, following her severe stroke in September 1996. Baroness Lloyd had been a co-opted member of the Governing Body for the last eight years. As technical advisor to the AMRC, her insight into the medical research community was of value to the Institute in many discussions.

The Governing Body, on behalf of the Institute, records its appreciation of the contributions made by the retiring governors, warmly welcomes the new members and hopes they will have a long and happy association with the Institute.

Scientific Advisory Committee

The Governing Body reports that Professor Sir Alec Jeffreys retired by rotation from the Committee in June 1997. He was replaced by Professor N D Hastie of the MRC Human Genetics Unit, Edinburgh. Professor Hastie is already a Member of the Institute as the representative of the University of Edinburgh.

Institute Membership

The four former fellows welcomed into membership at the beginning of 1998 following completion of their fellowships were:

Dr Anthony Berendt	Professor Anthony Maxwell
Dr Allan Herbison	Dr Colin Taylor

The Governors are also delighted to congratulate Professor Arbuthnott on the award of a Knighthood in the New Year's Honours List.

Financial Matters

(a) Financial Statements

The Financial Statements for 1997 show a capital and funds balance at the year-end of £32,710,000 (1996: £27,234,000). The value of the Institute's cash and investments increased by approximately £5,607,000 during the year (1996: £2,033,000) and investment income was £1,366,000 (1996: £1,534,000). The total return on investment for the year was 26.0% (1996: 14.2%). The gross income for the year was £1,549,000 (1996: £1,734,000). The net income was £51,000 (1996: £307,000); the decrease arising from the absence of non-recurring items of £339,000 available under the previous tax regulations.

The policy of the Governors is to maintain adequate financial resources to provide income to meet current and future commitments as they fall due. Current commitments are estimated at £4,017,000 at current costs, representing salaries and expenses of the present research fellows over the remainder of their fellowship period (1996: £3,805,000). Future commitments will be incurred from the annual award of five-year senior research fellowships. Currently the reserves and investment income are sufficient to meet these commitments but it is not considered prudent to increase the number of fellowship awards on an annual basis given that reductions in tax credits on dividend income available to charities will occur progressively over the period 1999 to 2004.

(b) Investment Policy

The Investment Sub-Committee of the Governing Body, consisting of the Honorary Treasurer, Mr James Buckley, who replaced Mr Geoffrey Sammons on the Committee, Lord Iveagh and the Secretary, together with a Director, Mr Richard Fitzalan Howard, and the Fund Manager, Mr Christopher Kennedy, of Robert Fleming Investment Management, meets quarterly to discuss the Institute's investment portfolio. The strategy being pursued is to achieve overall income growth through increases in both dividends and capital value of the assets while pursuing a low-risk investment policy. Equities are bought primarily in large UK companies while geographical spread is obtained through investment in multi-national companies. The proportions held in the various investments at year-end under the control of Robert Fleming Investment Management were: UK equities 76%, UK bonds 24%, with cash holdings of less than 1%. (In 1996 the holdings were: UK equities 75%, UK bonds 25%, cash less than 1%.)

Cellmark Diagnostics

The Governors can report that 1997 was a very good year for Cellmark UK. Overall the revenue earned by Cellmark was the highest since 1993 and this is reflected in the increased royalty paid to the Institute. This success was due to the paternity testing contract with the Child Support Agency. This contract will continue until 2000 AD, having been extended by two years. Revenue from the USA was down as the USA business is largely confined to the sale of probes in a mature and competitive market. It is anticipated that in the future Cellmark will switch to PCR technology in order to automate testing and resolve problems arising from sampling which threaten its competitive position. This will lead to a decline in the use of the DNA fingerprinting technology and hence in the revenue received by the Institute. This technology will continue to be used for the more difficult cases and for immigration service contracts.

Research Fellowship Scheme

A Lister Institute Research Fellowship is regarded as a highly prestigious and competitive award and a significant research opportunity. As a result, an increasing number of application form requests are received each year. One measure of the quality of the successful applicants and of their success in establishing themselves in a research

career is the number of prestigious awards and appointments made to current and former Research Fellows. Others are the success of fellows in obtaining grants in a competitive environment and in developing first class publication track records.

The Governors acknowledge that fellows are increasingly encouraged by their employing university and the government to obtain funding from a wide range of sources including industry. It has therefore been agreed that, subject to the necessary safeguards being in place and some constraints, a limited amount of consultancy work for third parties will be allowed. Requests to undertake contract research are to be reviewed on a case by case basis.

The Governing Body reports that Dr Kathryn Ayscough, University of Dundee, who was offered a fellowship in 1997, regretfully declined the offer. The fellowship was subsequently offered to and accepted by Dr Sally Prigent, Department of Biochemistry, University of Leicester. Dr Prigent's research project is entitled 'Identification and characterisation of novel effectors for vascular endothelial growth factor receptors involved in angiogenesis'.

The Fellowship Weekend at Christ's College, Cambridge, in September 1997 was again highly successful despite coinciding with the funeral of Princess Diana and the illness of one of the speakers. Dr Phil Evans, University of Cambridge, Dr Prem Kumar, University of Birmingham, and Dr David Kipling, University of Wales College of Medicine, all gave presentations for the first time. Dr Gwyn Gould, Dr Allan Herbison, Dr Colin Stirling and Professor Pedro Lowenstein were all speaking for a second time and were able to present data for their research work accumulated over several years. The eighth speaker was Professor David Rice, a former fellow. The next Weekend meeting will be held at Christ's College, Cambridge, on 4 & 5 September 1998.

Current Lister Institute Research Fellows

The Governors wish to report that:

Dr Anthony Berendt, Institute of Molecular Medicine, Oxford, resigned his fellowship on 31 August 1997 on his appointment as Consultant Physician in charge of the Bone Infection Unit at the Nuffield Orthopaedic Centre, Oxford.

Professor Pedro Lowenstein, University of Manchester, has been granted an extension to his fellowship for a period of two years.

Professor Ian Day, University of Southampton, transferred his fellowship from The Rayne Institute, UCL, to the University of Southampton where he took up a Personal Chair in Human Genetics on 1 October 1997.

The Governors wish to warmly congratulate:

Dr Caroline Dive, University of Manchester, on her promotion to Senior Lecturer from 1 October 1998 and on being invited to be the 1998 Charles Darwin Lecturer for the British Association for the Advancement of Science.

Professor Gwyn Gould, University of Glasgow, on the award of a Personal Chair as Professor of Membrane Biology with effect from 1 October 1997.

Professor Christopher A Hunter, University of Sheffield, on the award of a Personal Chair in the Department of Chemistry from 1 October 1997.

Dr Prem Kumar, University of Birmingham, who has been promoted to Reader from 1 August 1997.

Professor Anthony Maxwell, University of Leicester, on the award of a Personal Chair in Biochemistry with effect from 1 October 1997.

Dr Frances Platt, University of Oxford, who has been appointed to a University Research Lectureship from 1 February 1998.

Dr J Paul Schofield, University of Cambridge, on the award of Hon Consultant status on completion of his clinical training on 1 May 1997.

Dr Colin Stirling, University of Manchester, who won the Society for General Microbiology's 1997 Fleming Award and has been awarded the 1998 Balfour Prize by the Genetical Society.

The Governors report that the following fellows completed their fellowships in 1997:

on 31 August 1997:

Dr Anthony Berendt, University of Oxford, after 4½ years (plus two years' approved leave for clinical training);

on 30 September 1997:

Dr Allan Herbison, Babraham Institute, after 5 years

Dr Colin Taylor, University of Cambridge, after 5 years;

on 31 December 1997:

Professor Anthony Maxwell, University of Leicester, after 7 years.

Former Lister Institute Research Fellows

The Governors warmly congratulate:

Dr Julian Blow, ICRF, a fellow from 1991 to 1996, on his move to the University of Dundee where he became Director of the CRC Chromosome Replication Research Group in November 1997 and Senior Lecturer at the University.

Professor Graham Boulnois, a fellow from 1986 to 1991, on his appointment as Senior Vice President of Discovery Research for Zeneca Pharmaceuticals.

Professor Bernard Connolly, University of Newcastle, a fellow from 1989 to 1994, on his award of an MRC Senior Leave fellowship.

Dr Sally Freeman, University of Manchester, a fellow from 1989 to 1994, on her appointment as Senior Lecturer in the Department of Pharmacy from 1 October 1997.

Professor Christopher Higgins, a fellow from 1983 to 1989, on his appointment as Director of the MRC Clinical Sciences Centre, Hammersmith Hospital, from 1 January 1998.

Dr Wolf Reik, The Babraham Institute, a fellow from 1987 to 1993, on his appointment as Head of the Programme of Developmental Genetics from 1 November 1997.

Professor David W Rice, University of Sheffield, a fellow from 1988 to 1993, on his appointment as Chairman of the Department of Molecular Biology and Biotechnology from 1 January 1997.

Professor Claude M Wischik, a fellow from 1984 to 1994, on his appointment as Professor of Psychiatric Geratology at the University of Aberdeen from 1 October 1997.

Research Fellowships 1998

Following a record number of requests for application forms, the number of applications approved for consideration by the Scientific Advisory Committee to start on 1 October 1998 was 71 (69 in 1997). Raising the age limit to 35 for non-clinicians and 37 for clinicians did not have the anticipated effect of increasing the number of applicants. Included in the 71 applications were 33 women (28 in 1997), 11 medically qualified candidates (7 in 1997), one with veterinary and one with pharmacology

qualifications. 22 of the 71 were from tenured research staff and 17 were from foreign nationals. The Scientific Advisory Committee shortlisted and interviewed 12 candidates, including 2 women, one of whom was medically qualified (1997: 6 women and one clinician). The candidates offered fellowships were:

<i>Name</i>	<i>Place where research will be carried out</i>	<i>Title of research proposal</i>
BARR, Francis BSc, PhD 31 years	Department of Biochemistry and Molecular Biology, University of Glasgow.	Cell-cycle and tissue specific regulation of Golgi structure.
BOYES, Joan Mary BA, PhD 33 years	Institute of Cancer Research, Chester Beatty Laboratories, London.	Chromatin disruption during gene activation and V(D)J recombination.
CULLEN, Peter John BSc, PhD 33 years	Department of Biochemistry, University of Bristol.	Identification and characterisation of <i>in vivo</i> receptors for the ubiquitous second messengers inositol 1, 3, 4, 5-tetrakisphosphate and phosphatidylinositol 3, 4, 5-trisphosphate
MONCKTON, Darren George BSc, PhD 32 years	Division of Molecular Genetics, Institute of Biomedical and Life Sciences, University of Glasgow	Unstable DNA, human variation and disease
RASHBASS, Penny MA, MB, BChir, PhD	MRC Human Genetics Unit Western General Hospital, Edinburgh	Characterisation of the interactions required for early eye development.
STRUTT, David Ian MA, PhD	Departments of Molecular Biology & Biotechnology and Biomedical Sciences, University of Sheffield	Molecular Genetic Analysis of planar polarity in <i>Drosophila</i> .

** Dr David Strutt was placed first in order of merit by the Committee and was therefore elected Lister Institute-Jenner Research Fellow and the recipient of the Gordon Roderick Travel Scholarship.

Conclusion

I would like to thank the Governors, the members of the Scientific Advisory Committee and the staff of the Institute for their continued hard work and support, as a result of which the Institute continues to operate very successfully. I would also like to express my thanks to the fellows and former fellows whose hard work and

success in their field of research have contributed so much over the years to the reputation and prestige associated with Lister Institute Research Fellowships. As a result of all their efforts we can look forward with confidence.

Finally, I would like to express my thanks once again to those former governors whose advice, support and assistance has contributed so much to the success of the fellowship scheme and put the Institute on a sound financial basis so that we can safely expect the fellowship scheme to continue for many years to come. On your behalf I wish them long, happy and well-earned retirements.

Anne McLaren Chair



THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

The White House, High Road, Bushey Heath, Hertfordshire WD2 3JG

FINANCIAL STATEMENTS

for the year ended 31 December

1998

The Lister Institute of Preventive Medicine
is a company limited by guarantee (England 34479)
and a registered charity (206271)

THE GOVERNING BODY

Dr Anne L McLaren, DBE, MA, DPhil, FRCOG, FRS, *Chair*

Peter W Allen, MA, FCA, CIMgt, *Hon Treasurer (appointed April 1998)*

G James M Buckley

Professor H John Evans, CBE, PhD, FRCPE, FRSE

C Edward Guinness, CVO

Hon Rory M B Guinness, *(appointed as the representative of The Rt Hon the Earl of Iveagh, June 1998)*

Professor Sir Alec Jeffreys, DPhil, FRS

Dr Alan Munro, PhD

Professor William V Shaw, MD

Professor J G Patrick Sissons, MD, FRCP, FRCPath *(appointed October 1998)*

Professor Anne E Warner, PhD, FRS

David C Hobson, CBE, MA, FCA, *Hon Treasurer (retired April 1998)*

Baroness Lloyd of Highbury, DBE, MD, FRCP, FRCPE *(retired April 1998)*

The Rt Hon the Earl of Iveagh *(resigned June 1998)*

Professor Sir Keith Peters, MB, BCh, FRCP, FRS *(retired October 1998)*

Secretary and Clerk to the Governors: F Keith Cowey, MA, BSc, DAS

FINANCIAL REPORT OF THE GOVERNING BODY

for the year ended 31 December 1998

The Institute is a company limited by guarantee and has charitable status.

The Governing Body presents the financial statements of the Institute for the year ended 31 December 1998. A separate report of the Governing Body is prepared.

Results

The results of the Institute for the year ended 31 December 1998 are set out on page 5.

The net deficit for the financial year is £236,000 (1997: net income £51,000).

The value of the Institute's cash and investments increased in aggregate by £1.24 million during the year (1997: £5.61 million increase).

The governors confirm that sufficient funds are available to fulfil the obligations of the Institute.

Principal activities

The income of the Institute is utilised to support medical research.

Future operations

It is expected that during 1999 a further five Fellowships will be awarded, each for a period of five years, maintaining the total of twenty-eight Fellowships currently being funded.

Changes in fixed assets

The movements in fixed assets during the year are set out in note 7 to the financial statements.

Reserves

The Institute, which does not seek to raise funds from the public, depends primarily on investment income to meet its pension payments, administrative expenditure and research fellowship awards. Costs tend to increase year by year due to inflation and other salary changes.

The Governing Body wishes to award in perpetuity as many fellowships as it can prudently grant to candidates of an appropriate standard. Therefore it seeks to maximise its investment performance by prudent management.

The performance of the investment portfolio is reviewed by the Investment Sub-Committee which has quarterly meetings with the investment managers and receives regular reports.

Reserves are necessary to safeguard the Institute against any shortfalls of net income which may arise and to enable the Institute to continue to award five fellowships, each for five years annually, and to authorise the extension of certain fellowships and, in some years, an additional fellowship award.

Year 2000

The Institute has undertaken a review of its business systems in relation to the Year 2000. Given the complexity of this issue it is not possible to guarantee that every area of concern has been identified and will be resolved. However, the risks are considered minimal. Any costs in relation to Year 2000 will be expensed as they are incurred.

Introduction of the euro

As the Institute does not incur significant foreign expenditure, the impact of the introduction of the euro on 1 January 1999 is not considered to be significant, and there are no associated costs. Any costs incurred in relation to EMU will be met as they occur.

Governing Body

The members of the Governing Body who served at any time during 1998 are shown on page 1.

Governors' responsibilities

The governors are required by UK company law to prepare financial statements for each financial year that give a true and fair view of the state of affairs of the Institute as at the end of the financial year and of the income and expenditure of the Institute for that period.

FINANCIAL REPORT OF THE GOVERNING BODY *(CONTINUED)*

for the year ended 31 December 1998

The governors confirm that suitable accounting policies have been used and applied consistently and reasonable and prudent judgements and estimates have been made in the preparation of the financial statements for the year ended 31 December 1998.

The governors also confirm that applicable accounting standards have been followed and that the financial statements have been prepared on the going concern basis.

The governors are responsible for keeping proper accounting records which disclose with reasonable accuracy at any time the financial position of the Institute and enable them to ensure that the financial statements comply with the Companies Act 1985.

The governors are also responsible for safeguarding the assets of the Institute and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Auditors

Messrs Coopers & Lybrand resigned and Messrs PricewaterhouseCoopers were appointed as auditors of the Institute with effect from 20 October 1998.

A resolution to appoint PricewaterhouseCoopers as auditors will be proposed at the General Meeting.

DR ANNE L McLAREN

Chair

16 June 1999

REPORT OF THE AUDITORS

to the members of The Lister Institute of Preventive Medicine

We have audited the financial statements on pages 5 to 11 which have been prepared under the historical cost convention as modified by the re-valuation of investments and the accounting policies as set out on page 7.

Respective responsibilities of governors and auditors

As described on page 2 the Institute's governors, who also act as trustees for the charitable activities of The Lister Institute of Preventive Medicine, are responsible for the preparation of financial statements. It is our responsibility to form an independent opinion, based on our audit, on those statements and to report our opinion to you.

Basis of opinion

We conducted our audit in accordance with Auditing Standards issued by the Auditing Practices Board. An audit includes examination, on a test basis, of evidence relevant to the amounts and disclosures in the financial statements. It also includes an assessment of the significant estimates and judgements made by the governors in the preparation of the financial statements, and of whether the accounting policies are appropriate to the Institute's circumstances, consistently applied and adequately disclosed.

We planned and performed our audit so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the financial statements are free from material

misstatement whether caused by fraud or other irregularity or error. In forming our opinion we also evaluated the overall adequacy of the presentation of information in the financial statements.

Opinion

In our opinion the financial statements give a true and fair view of the state of the Institute's affairs at 31 December 1998 and of its net deficit and total recognised gains for the year then ended and have been properly prepared in accordance with the Companies Act 1985.

PRICEWATERHOUSECOOPERS

Chartered Accountants and Registered Auditors

London

16 June 1999

STATEMENT OF FINANCIAL ACTIVITIES

for the year ended 31 December 1998

	Notes	1998 £'000	1997 £'000
INCOME AND EXPENDITURE			
Incoming resources			
Investment income	2	1,269	1,366
Interest receivable		76	80
Other income	3	82	103
Total incoming resources		1,427	1,549
Resources expended			
<i>Direct charitable expenditure:</i>			
Grants	6	(1,276)	(1,181)
<i>Other expenditure:</i>			
<i>Expenditure on the management & administration of the charity:</i>			
Investment management fees		(89)	(83)
Salaries	4	(70)	(70)
Pension costs	11	(152)	(112)
Miscellaneous	5	(76)	(52)
		(387)	(317)
Total resources expended		(1,663)	(1,498)
Net incoming/(outgoing) resources for the year		(236)	51
GAINS/(LOSSES) ON INVESTMENT ASSETS			
Realised	13	2,505	949
Unrealised	13	(1,040)	4,476
Net movement in funds		1,229	5,476
Capital and funds at beginning of year		32,710	27,234
Capital and funds at end of year		33,939	32,710

The notes set out on pages 7 to 11 form part of these financial statements.

All items in the above Statement of Financial Activities relate to continuing operations for both years.

The Institute has no other recognised gains and losses other than as stated above and hence no separate statement has been shown. Auditors' report page 4.

BALANCE SHEET

at 31 December 1998

	Notes	1998 £'000	1997 £'000
Fixed assets			
Tangible assets	7	255	260
Investments	8	<u>33,568</u>	<u>31,810</u>
		33,823	32,070
Current assets			
Debtors	9	141	156
Cash at bank and in hand		<u>861</u>	<u>1,377</u>
		1,002	1,533
Creditors:			
amounts falling due within one year	10	<u>(382)</u>	<u>(458)</u>
Net current assets		620	1,075
Total assets less current liabilities			
Provision for liabilities and charges	11	<u>(504)</u>	<u>(435)</u>
		33,939	32,710
Capital and funds			
Unrestricted general fund	13	<u>33,939</u>	<u>32,710</u>

These financial statements were approved by the Governing Body on 16 June 1999.

DR ANNE L McLAREN	Members of the
PETER W ALLEN	Governing Body

The notes set out on pages 7 to 11 form part of these financial statements.
Auditors' report page 4.

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 December 1998

1 Principal accounting policies

The financial statements have been prepared in accordance with applicable Accounting Standards in the United Kingdom including the Statement of Recommended Practice "Accounting by Charities" issued in October 1995. A summary of the more important accounting policies is set out below.

(a) Basis of accounting

The financial statements are prepared in accordance with the historical cost convention modified by the revaluation of investments.

(b) Tangible fixed assets

Tangible fixed assets are stated at their purchase price, together with any incidental expenses of acquisition. Provision for depreciation is made so as to write off the cost of tangible fixed assets on a straight line basis over the expected useful life of the fixed assets concerned. The principal annual rate used for this purpose is:

Land and buildings 2%

Expenditure incurred on minor office equipment is written off on acquisition.

(c) Investments

Investments are shown at market value in the balance sheet. Changes in the market value are included in the general fund in the year in which they arise. Investments denominated in foreign currencies are valued at year-end rates of exchange.

(d) Royalties

Royalties are accounted for on an accruals basis.

(e) Grants

Grants to the Institute's Research Fellows approved for disbursement in the year are accrued for as liabilities in the financial statements.

(f) Direct charitable expenditure

Direct charitable expenditure comprises all expenditure directly relating to the objects of the charity.

(g) Supplementary pensions and staff pensions

Provision is made in the financial statements for the total estimated future supplementary payments, discounted to reflect the timing of the payments. This represents the estimated amount that would have to be invested were the supplementary pensions to be separately funded ("the notional investment").

In addition, provision is also made for the total estimated future pension costs for two employees still in service with the Institute.

The provision for future supplementary pension costs and the charge to the Statement of Financial Activities are calculated every three years by an independent professionally qualified actuary. Any surplus or deficiency in the provision is recognised immediately.

The provision and charge to income have been calculated on the basis of an actuarial valuation as at 1 January 1998, using the following main assumptions:

- the number of persons to whom supplementary pensions are paid will not increase significantly;
- the return on the notional investment will be 6%;
- employees currently in service will retire at 65.

2 Income from fixed asset investments

	1998	1997
	£'000	£'000
Listed investments	<u>1,269</u>	<u>1,366</u>

3 Other income

	1998	1997
	£'000	£'000
Rental	5	5
Royalty income	114	138
Share of royalties payable to third parties	(37)	(40)
	<u>82</u>	<u>103</u>

The royalties relate mainly to the DNA probe which is being marketed by a licensee.

4 (a) Emoluments of members of the Governing Body

No member of the Governing Body received any emoluments in respect of services to the Institute during the year (1997: nil).

Travel expenses incurred by members of the Governing Body in connection with their attendance at meetings are reimbursed.

Members of the Governing Body who are also members of the Scientific Advisory Committee receive remuneration in relation to their services to the committee. Remuneration of £600 (1997: £900) was paid to one of the members.

(b) Employee information

The average number of persons employed by the Institute during the year was 3 (1997: 3), all of whom were employed in an administrative capacity. No employee earned £40,000 p.a. or more.

(c) Salaries

	1998	1997
	£'000	£'000
Gross salaries	65	65
Employer's national insurance and state pension contributions	5	5
	<u>70</u>	<u>70</u>

5 Miscellaneous expenditure

	1998	1997
	£'000	£'000
Office expenses	17	13
Travel expenses	5	6
Auditors' remuneration - audit fee	8	8
Professional fees	8	1
Depreciation	5	5
General expenses	33	19
	<u>76</u>	<u>52</u>

6 Grants

Grants of £1,276,000 (1997: £1,181,000) were made during the year. These represent amounts approved for disbursement to the Institute's Research Fellows in respect of the year ended 31 December 1998.

7 Tangible fixed assets

	Land and buildings
Cost	£'000
At 1 January 1998	272
Additions	0
Disposals	0
At 31 December 1998	<u>272</u>
Depreciation	
At 1 January 1998	12
Charge for year	5
Disposals	0
At 31 December 1998	<u>17</u>
Net book value	
At 31 December 1998	<u>255</u>
At 31 December 1997	<u>260</u>

8 Investments

Investments comprise listed investments which are valued at middle market quotations ruling at the year-end.

All investments are in UK equities, UK unit trusts and Government bonds.

	1998	1997
	£'000	£'000
Market value at beginning of year	31,810	26,410
Purchases during the year at cost	9,800	3,586
Proceeds of sales during the year	(9,507)	(3,614)
Changes in market value of investments held at end of financial year	<u>1,465</u>	<u>5,428</u>
Market value at end of year	<u>33,568</u>	<u>31,810</u>
Historical cost at end of year	<u>22,389</u>	<u>19,591</u>

Significant shareholdings, exceeding 5% of the value of investments, exist in the following:

	1998	1997
	£'000	£'000
Unilever	<u>1,887</u>	<u>1,459</u>

9 Debtors

	1998 £'000	1997 £'000
Prepayments and accrued income	113	93
Other debtors	28	63
	<u>141</u>	<u>156</u>

10 Creditors: *amounts falling due within one year*

	1998 £'000	1997 £'000
Accruals	377	456
Other creditors including taxation and social security	5	2
	<u>382</u>	<u>458</u>

11 Provision for liabilities and charges

This represents a provision for future supplementary pension payments in respect of ex-employees, based on their salary and length of service, and provision for two current employees' pension costs. The pensions are unfunded, with payments made out of the Institute's funds as they fall due. The supplementary pensions paid are increased annually in line with published government figures.

The results of the actuarial valuation carried out in the year determined the provision brought forward to be insufficient to cover future supplementary pension payments and the costs associated with providing pensions for two current employees. This has been reflected in the charge to the Statement of Financial Activities in the year in accordance with the Institute's accounting policy to recognise any deficiency immediately.

Movements in the provision during the year were as follows:

	1998 £'000	1997 £'000
Provision at beginning of year	435	405
Charge to Statement of Financial Activities	147	112
Pensions paid	(78)	(82)
Provision at end of year	<u>504</u>	<u>435</u>

12 Donations received to date

	1998 £'000	1997 £'000
Donations have been received to date from:		
Dr Ludwig Mond (1893)	2	2
Berridge Trustees (1893-1898)	46	46
Worshipful Company of Grocers (1894 and 1969-1973)	15	15
Lord Iveagh (1900)	250	250
Lord Lister's Bequest (1913-1923)	19	19
William Henry Clarke Bequest (1923-1926)	7	7
Rockefeller Foundation (1935-1936)	3	3
Wolfson Foundation (1969-1973)	300	300
Jenner Memorial Studentship Fund (1984)	48	48
Professor William Bulloch Bequest (1990)	6	6
Other donations and legacies (1891-1998)	72	72
Centenary donations: Coopers & Lybrand	5	5
Guinness plc	5	5
ICI plc	5	5
Worshipful Company of Grocers	5	5
Coutts & Co	5	5
MacFarlanes	1	1
	<u>794</u>	<u>794</u>

13 Unrestricted general fund

	Realised £'000	Unrealised £'000	Total £'000
Balance at beginning of year	20,491	12,219	32,710
Movement in value of fixed asset investments	2,505	(1,040)	1,465
Deficit for the year	(236)	-	(236)
Balance at end of year	<u>22,760</u>	<u>11,179</u>	<u>33,939</u>

14 Financial commitments

The Institute is committed to paying the salaries and expenses of the present twenty-eight Research Fellows (1997: twenty-eight) over the remainder of their fellowship period (maximum five years). The amounts involved, assuming a 4% per annum increase are as follows:

	1998 £'000	1997 £'000
Payable within one year	1,346	1,248
Payable between two to five years	2,879	2,769
	<u>4,225</u>	<u>4,017</u>

In addition to the above commitments, it is the Institute's intention to award at least five new Fellowships annually (each for a period of five years) for the foreseeable future.

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

The White House, High Road, Bushey Heath, Hertfordshire WD2 3JG

REPORT OF THE GOVERNING BODY

1999

The Lister Institute of Preventive Medicine
is a company limited by guarantee (England 34479)
and a registered charity (206271)

THE GOVERNING BODY

Dr Anne L McLaren, DBE, MA, DPhil, FRCOG, FRS, *Chair*

Peter W Allen MA, FCA, CIMgt, *Hon Treasurer*

G James M Buckley

Professor H John Evans, CBE, PhD, FRCPE, FRSE

C Edward Guinness, CVO

Hon Rory Guinness (*appointed June 1998*)

Professor Sir Alec Jeffreys, DPhil, FRS

Dr Alan Munro, PhD

Professor William V Shaw, MD

Professor J G Patrick Sissons, MD, FRCP, FRCPath (*appointed October 1998*)

Professor Anne E Warner, PhD, FRS

The Rt Hon the Earl of Iveagh (*resigned June 1998*)

Professor Sir Keith Peters, MB, BCh, FRCP, FRS (*retired October 1998*)

Secretary, and Clerk to the Governors: F K Cowey, MA, BSc, DAS

Solicitors

Macfarlanes
10 Norwich Street
London, EC4A 1BD

Auditors

PricewaterhouseCoopers
1 Embankment Place
London, WC2N 6NN

SCIENTIFIC ADVISORY COMMITTEE

Professor William V Shaw, MD, *Chair*

Professor Leszek Borysiewicz, PhD, FRCP

Professor Andrew J McMichael, MB, BChir, PhD, FRCP, FRS

Professor Nicholas D Hastie, PhD, FRSE

Professor R H Michell, DSc, FRS (*appointed June 1998*)

Professor Jean O Thomas, CBE, ScD, FRS

Professor Cheryl Tickle, PhD, FRS

Professor Richard N Perham, PhD, ScD, FRS (*retired June 1998*)

ANNUAL GENERAL MEETING 16 JUNE 1999

REPORT OF THE GOVERNING BODY

I am happy to report that the last year could once again be defined as a 'good year' for the Institute thanks to the continuing hard work and achievements of the Institute's Fellows and former Fellows and the continued health of the British economy. Inevitably, too, there have been changes in personnel involved with the Institute and with the way we do things. It also has to be recognised that, given the changing tax and financial environment, the Institute will face fresh challenges and will have to make some difficult strategic decisions over the next year or so. These, however, will be the subject of future reports.

Governing Body

The last year has again seen some changes in the Governing Body. Professor Sir Keith Peters retired, as he put it, 'to make room for new blood after an unconscionably long period of service'. In fact, Sir Keith had played a key role in the affairs of the Institute since its early days. He served as a co-opted member of the Governing Body for three years from 1982 to 1985 and then again for a 12-year stint as a co-opted member from 1986 to 1998. In addition, he had a six-year spell as a member of the Scientific Advisory Committee from 1990 to 1996. For his advice and support and, in particular, his enthusiastic encouragement of the role of clinical scientists, we on the Governing Body and many members of the Institute's fellowship give him our sincere thanks. Sir Keith has been replaced by Professor Patrick Sissons, a colleague of his at Addenbrooke's Hospital and Cambridge University.

The last year also saw the resignation, with his profound regret, of the Rt Hon Earl of Iveagh because of the pressure of family and business commitments. In his place we are delighted to welcome, as his nominee, his younger brother, the Hon Rory Guinness, whom we trust will be with us for many years.

Following the resignation last year of Baroness Lloyd of Highbury, the Governing Body decided not to appoint a further co-opted member immediately but to wait until a specific need or particular individual was identified. This continues to be the policy and an appointment will be made at the appropriate moment.

The Governing Body, on behalf of the Institute, records its appreciation of the contributions made by the retiring governors and warmly welcomes the new members and hopes they will have a long and happy association with the Institute.

Scientific Advisory Committee

The Governing Body reports that Professor Richard Perham of the University of Cambridge retired by rotation from the Committee in June 1998. He was replaced by Professor Bob Michell of the University of Birmingham. Like Professor Perham, Professor Michell is a distinguished biochemist who will bring both insight and experience to the deliberations of the Scientific Advisory Committee. Richard Perham, having recently relinquished the head of department role at Cambridge and successfully overseen the completion of the new biochemistry building, is returning to his first love, research, and we wish him every success with this.

Institute Membership

Four former fellows were welcomed into membership at the beginning of 1999 following completion of their fellowships. They were:

Dr Mark Buttner	Professor Gwyn Gould
Dr Paul Schofield	Professor Colin Stirling

I also have to report that Professor Alasdair Steele-Bodger has resigned as the representative of the Royal Agricultural Society of England after many years and that the name of his replacement is still awaited from the Society.

Professor David Bradley is to be replaced as the representative of the University of London by Professor Eleanor Riley of the London School of Hygiene and Tropical Medicine and Professor Ferguson-Smith, the representative of the University of Cambridge, is to be replaced by Professor A C Minson of the Department of Pathology.

Because of their active support of the Institute's activities, the Governors have unanimously elected both David Bradley and Malcolm Ferguson-Smith as Members of the Institute in their own right.

We are sorry to report the deaths during 1998 of two long-serving former members of staff, Dr George Turner on 28 June and Mr Sidney White on 10 August. Dr Turner had served at Elstree, retiring after 20 years' service, and Mr White retired after 45 years' service at Chelsea, during the last 26 of which he had served as

Secretary of the Institute and for 20 years as Clerk to the Governing Body. Perhaps uniquely Sidney White's father had previously had over 50 years' service with the Lister Institute and had been Secretary for 24 years from 1926 to 1949 when his son succeeded him.

Financial Matters

(a) Financial Statements

The Financial Statements for 1998 show a capital and funds balance at the year-end of £33.94 million (1997: £32.71 million). The value of the Institute's cash and investments increased by approximately £1.24 million during the year (1997: £5.61 million) and investment income was £1.27 million (1997: £1.37 million). The gross income for the year was £1.43 million (1997: £1.55 million). The Institute's direct charitable expenditure on grants rose to £1.28 million (1997: £1.18 million) and further expenditure was £387,000 (1997: £317,000) making a total expenditure of £1.66 million (1997: £1.5 million). The Institute therefore had a net deficit for the year of £236,000 (1997: net income of £51,000). Incoming resources declined because, alongside a decline in investment income, interest rates had fallen and lower royalties were received. In addition to an increased expenditure on grants, higher provision has had to be made for supplementary pensions, including the future pensions of two current staff members and an adjustment has been made for VAT claims.

The policy of the Governors is to maintain adequate financial resources to provide income to meet current and future commitments as they fall due and to ensure that funds are available to award Lister Institute Research Fellowships in perpetuity. The Institute's commitments are estimated at £4.23 million at today's costs, representing salaries and expenses of the present research fellows over the remainder of their fellowship period (1997: £4.02 million). Currently the reserves and investment income are sufficient to meet these commitments. Future commitments will be incurred from the annual award of five-year senior research fellowships. The number to be awarded will be reviewed each year in the light of the prevailing financial resources.

(b) Investment Policy

The Investment Sub-Committee of the Governing Body continues to meet quarterly with the representatives of Robert Fleming Investment Management responsible for managing the Institute's investment portfolio. Over the next five years the Lister Institute, like all other charities, will progressively lose its ACT credits, while the

royalty income obtained from Cellmark Diagnostics and other sources will decline. It is not anticipated that interest rates and dividend payments will increase to compensate for these reductions and it is, therefore, necessary to pursue a strategy of total returns, utilising both investment income and capital growth, while pursuing a low risk investment policy.

Given the current volatility in the stock market, it has been accepted that a less risky investment policy would be to diversify the holdings and avoid being significantly 'overweight' in a limited number of stocks. Consequently it has been agreed with Flemings that the portfolio will be brought more into line with their general charity portfolio recommendations. For the moment all the investments are in UK companies but the options of diversifying the holdings by investment in European and USA shares or bonds are being investigated. The proportions held in various investments at year-end under the control of Robert Fleming Investment Management were: UK equities 75%, UK bonds 24%, with cash 1%. (*In 1997 the holdings were: UK equities 76%, UK bonds 24%, cash much less than 1%.*)

(c) Income from the exploitation of research

The gross royalty income received by the Institute in 1998 was £114,000 (1997: £138,000). After payment of royalties to third parties, the royalty income fell to £77,000 (1997: £98,000). More than half this decline is attributable to a drop in the sales of DNA gyrase by the University of Leicester, where the royalty income declined to £18,000 (1997: £32,000). There was also a small but significant fall in the royalties from Cellmark Diagnostics, with the Institute receiving royalties of £97,000 gross (1997: £104,000). This reduction can largely be attributed to the switch from Lister Institute owned technology to PCR (polymerase chain reaction) based technology in November 1998. This change, which will be permanent, applies to all paternity testing undertaken by Cellmark Diagnostics. This has been done to make sampling much easier since PCR assays work with mouth swabs or pin pricks rather than a blood sample which may be difficult to get from young children. PCR technology also has a much greater potential for automation, offering greater productivity and hence reduced unit costs. It is envisaged that in 1999 the royalty income from Cellmark will be significantly reduced, perhaps to about 25% of this year's total, and will be based on sales of probes, which are declining, and testing undertaken for various immigration services. On a more positive note, the Institute has received £6,500 from UMIST which is in acknowledgement of the consultancy work undertaken by one of the Fellows on behalf of PanTherix. In the future, it is hoped that the

Institute will benefit from the exploitation of a patent filed by a former Lister Fellow which is now being exploited by a company called Prolifix.

Year 2000 Computer Problem

Like all other organisations, we have had to consider the potential impact and extent of any Year 2000 problems on the Institute's operations and their possible implications. As a small charity operating out of a simple administrative office, it is not felt that the risks to the Institute itself are significant. All the hardware has been tested to ensure that it is Year 2000 compliant and the software is being regularly upgraded to ensure that it, too, can operate across the millennium. A greater area of risk relates to the parties with which the Institute interacts. Reassurances have been obtained from Robert Fleming, the investment managers, Coutts and TSB, the Institute's bankers, and Capstan, the company providing security at the office, that they are addressing the problem and foresee no difficulties. There is also a concern that university research work could be disrupted, which would impact on the activities of research fellows, as could the universities' administrative systems, which would affect the rate at which the Institute receives invoices from the host institutions. Letters have been sent seeking reassurances from all Fellows and universities that attention is being paid to the problem. Replies have been received intimating that every best effort will be made to ensure that there is no disruption to the Lister Institute Research Fellows' research or to interactions between the university and the Institute.

Research Fellowship Scheme

Lister Institute Research Fellowships continue to be regarded as highly prestigious awards and a significant research opportunity for all awarded them. As a result, the application process is very competitive and it is not surprising that Fellows and former Fellows are all highly motivated scientists who are generally successful in their research. A testament to this is the rate and frequency with which Fellows are awarded promotions and the fact that 50% of all former Fellows now hold Chairs. It is also noticeable that Fellows are succeeding in getting their results published in high quality journals and that they are successful in their grant applications. It is noticeable, too, that in a changing funding environment, charities, and particularly the Wellcome Trust, are the principal source of research funds. The traditional funder for Lister Institute Fellows, the MRC, now plays a relatively minor role in the support of Fellows' research.

Because of the undoubted benefits of holding a fellowship, it is inevitable that Fellows should seek extensions to their fellowships. However, recognising that the Institute faces future financial constraints and the fact that extensions inevitably cost more per annum than the appointment of a new fellow, the Governors have decided that priority will always be given to the establishment of new fellowships. Extensions will, therefore, only be granted in exceptional circumstances: perhaps where a significant breakthrough has been made, a new opportunity is opening up, where there is a commercially viable opportunity which requires further development or in circumstances where there is a specific humanitarian reason for extending the fellowship. In line with this policy, in the last year, two requests for extensions have been rejected and a third granted, but for a shorter period (one year) than originally requested.

Given the undoubted success of the fellowship scheme since its inception in 1982, the approaching millennium and the fact that 1998 was the centenary of Lord Iveagh's donation of £250,000 to the then British Institute of Preventive Medicine and of the opening of the Chelsea Laboratories, the Governors have unanimously approved the proposal that a 'Concise History of the Institute' be commissioned. The format suggested is for a hardback booklet, 40–60 pages long, covering the history of the Institute from 1891 to the year 2000 with particular emphasis on the last 25 years. This will be available to all Members of the Institute. Mr Edward Guinness, the Institute's longest-serving Governor and to whose family the Institute owes so much, will have primary responsibility for overseeing this project.

The Governing Body reports that Dr Francis Barr, University of Glasgow, who was offered a fellowship in 1998, regretfully declined the offer, accepting instead a Wellcome Trust 4-year career development fellowship. Following the recommendation of the Scientific Advisory Committee, no replacement fellow was appointed and, as a result, only five fellowships were awarded in 1998.

The Fellowship Weekend at Christ's College Cambridge, in September 1998 was again highly successful. The meeting followed the format of previous years. Six Fellows spoke for the first time. These were Professor Ian Day of the University of Southampton, Dr Jeremy Derrick of UMIST, Dr Caroline Dive of the University of Manchester, Dr Tom Evans of Imperial College School of Medicine London, Dr Jon Waltho of the University of Sheffield and Dr Bob White of the University of Glasgow. Two Fellows, Dr Tony Clarke of the University of Bristol and Professor Ian Roberts

of the University of Manchester, were speaking for the second time and were, therefore, able to give a broad overview of the data that they had accumulated over the previous four years of their fellowships. The final speaker was Professor Judith Armitage from the University of Oxford who was able to review the way that her research has progressed and developed since her fellowship was completed in the 1980s. The next Weekend meeting, the fifteenth, will be held at Christ's College, Cambridge, on 3 & 4 September 1999.

Current Lister Institute Research Fellows

The Governors wish to report that:

Dr Victoria Allan, University of Manchester, has now received a written guarantee of a permanent post at the University when her fellowship ends in September 2000.

Dr Penny Rashbass, MRC Human Genetics Unit, Edinburgh, transferred her fellowship to the University of Sheffield on 1 April 1999.

Dr Andrew Sharrocks, University of Newcastle, transferred his fellowship to the University of Manchester on 1 January 1999.

Dr Paul Schofield, Addenbrooke's Hospital, Cambridge, resigned his fellowship on 31 May 1998 on taking up an appointment as Associate Director within the Division of Pharmacology at SmithKline Beecham.

The Governors wish to warmly congratulate:

Dr Catherine Boulter, University of Cambridge, on the award of a National Kidney Research Fund fellowship that will commence on 1 September 2000 after the completion of her Lister Institute Research Fellowship.

Dr Caroline Dive, University of Manchester, on her appointment as Reader from 1 October 1998.

Dr Andrew Sharrocks, University of Manchester, on his promotion to Reader from 1 August 1998, while still at Newcastle.

Dr Colin Stirling, University of Manchester, on the award of a personal Chair in Genetics from 1 August 1998.

Dr David Kipling, University of Wales, Cardiff, on his appointment as Co-ordinator of the BBSRC's Ageing Initiative.

Dr Robert White, University of Glasgow, on receiving the Young Scientist of the Year Award for 1999 from the British Association for Cancer Research in collaboration with Zeneca.

The Governors report that the following fellows completed their fellowships:

on 31 May 1998:

Dr Paul Schofield, University of Cambridge, after 13 months, (when he resigned to move into industry).

on 30 September 1998:

Dr Anthony Clarke, University of Bristol, after 5 years.

Professor Gwyn Gould, University of Glasgow, after 6 years.

Professor Colin Stirling, University of Manchester, after 5 years.

on 31 December 1998:

Dr Mark Buttner, University of East Anglia, after 5 years.

on 31 March 1999

Professor Ian Roberts, University of Manchester, after 5 years (plus 6 months' sabbatical).

Former Lister Institute Research Fellows

The Governors warmly congratulate:

Professor Judith Armitage, University of Oxford, a fellow from 1982 to 1985, on the award of a fellowship at University College London, 1998.

Dr Wendy Bickmore, MRC Human Genetics Unit, Edinburgh, a fellow from 1991 to 1996, on the award of a James S McDonnell Centennial Fellowship in Human Genetics. Ten centennial awards were made (two in each of five areas). Wendy Bickmore was the only UK winner and she received the \$1 million award for her excellence in scientific research combined with her ability to communicate its relevance and importance to non-scientific audiences.

Professor Leszek Borysiewicz, University of Wales, Cardiff, a fellow from 1983 to 1987, on his election as a Foreign Member of the Faculty of Natural Sciences of the Polish Academy of Arts and Sciences.

Dr Mark Buttner, University of East Anglia, a fellow from 1994 to 1998, on his transfer to a permanent Group Head position in the Unit of Nitrogen Fixation in the John Innes Centre on the completion of his fellowship.

Professor Anthony Clarke, University of Bristol, a fellow from 1993 to 1998, on the award of a personal Chair from 1 August 1999.

Dr Jonathan Fry, University College London, a fellow from 1983 to 1988, on his appointment as a specialist subject reviewer by the Quality Assurance Agency for Further Education for the period 1998 to 2000.

Professor Barry Halliwell, Kings College London, a fellow from 1983 to 1988, on the award of a two-year sabbatical to the National University of Singapore.

Professor Christopher Higgins, Imperial College School of Medicine, a fellow from 1983 to 1989, on his election as a founder member of the Academy of Medical Sciences.

Professor Stephen Homans, University of St Andrews, a fellow from 1991 to 1996, on the award of an FRSE and the receipt of the 1998 Zeneca Award from the Biochemical Society and on his appointment as Professor of Structural Biology (NMR) at the University of Leeds from 1 March 1999.

Dr Ian Jackson, MRC Human Genetics Unit, Edinburgh, a fellow from 1986 to 1991, on being elected Chair of the International Committee on Mouse Genetic Nomenclature in 1998.

Professor Sir Alec Jeffreys, University of Leicester, a fellow from 1982 to 1991, on his election as an honorary member of the American Academy of Forensic Sciences and of the Institute of Biology and on being a co-recipient of the Australian Prize awarded in molecular genetics.

Professor Simon Kroll, Imperial College School of Medicine, a fellow from 1986 to 1991, on his election as a Fellow of the Royal College of Paediatrics and Child Health (FRCPCH).

Dr Robert Lightowlers, University of Newcastle, a fellow from 1990 to 1995, on the award of a Readership in Molecular Neurosciences from 1 August 1998.

Professor Stephen Perkins, Kennedy Institute of Rheumatology, a fellow from 1983 to 1986, on his election as Professor of Structural Biochemistry at the Royal Free and University College London Medical School from 1 July 1998.

Professor Stephen Yeaman, University of Newcastle, a fellow from 1984 to 1989, on his appointment as Head of the School of Biochemistry and Genetics from 1 August 1998.

Research Fellowships 1999

The number of applications approved for consideration by the Scientific Advisory Committee for fellowships to start on 1 October 1999 was 80, a record number (71 in 1998). As usual, three or four enquiries were received for every proposal submitted. There were also 32 enquiries from over-age applicants, of which seven were approved and six resulted in applications. 28 of the applications were from women (33 in 1998). Only six of the applicants were under 30 and 18 were non-UK citizens. A total of 25 had tenured positions and 11 of the 80 had clinical qualifications with one having veterinary science qualifications. As is standard practice, the Scientific Advisory Committee shortlisted and interviewed 12 candidates, including 4 women (2 in 1998), and for the first time, both of the clinicians interviewed were women. The primary criterion for interview is scientific excellence. In addition to ability, the benefit of experience, which is needed to produce high quality proposals, is reflected in the average age (34 years) and higher proportion of tenured applicants in the shortlist (5 out of 12). It is noticeable that the average age of the applicants has increased steadily over the years and that the breadth of high quality proposals has also increased so that there is no longer a tail of poor applications. The candidates offered fellowships were:

Name	Place where research will be carried out	Title of research proposal
**BESRA, Gurdyal S BSc, PhD	School of Microbiological, Immunological & Virological Sciences, University of Newcastle	Mycobacterial lipoarabinomannan biosynthesis: structure, function and biological implications in tuberculosis.
INSALL, Robert H BA, PhD	School of Biochemistry, University of Birmingham	A genetic analysis of the Arp 2/3 complex in chemotaxis.
SANDERSON, Frances MA, BM, BCh, MRCP, PhD	Nuffield Department of Clinical Medicine, John Radcliffe Hospital, Oxford	The development of T-cell inducing vaccines against vivax malaria.
SCRUTTON, Nigel S BSc, PhD	Department of Biochemistry, University of Leicester	Electron transfers in biology and medicine.
WATSON, Kimberly A MSc, DPhil	Laboratory of Molecular Biophysics, Department of Biochemistry, University of Oxford	Structural biology of insulin response proteins.

** Dr Gurdyal Besra was placed first in order of merit by the Committee and was therefore elected Lister Institute-Jenner Research Fellow and the recipient of the Gordon Roderick Travel Scholarship.

Conclusion

Establishing and maintaining the prestige of a fellowship scheme when there are many other competing sources of funds requires high standards of teamwork, quality and dedication throughout the team. In this case the team includes former Fellows, current Fellows, the staff of the Institute, members of the Scientific Advisory Committee and also my fellow Governors. I would like to express my thanks to them all for their hard work, support and dedication. The success of their efforts is reflected in the fact that, in the recently published Wellcome Trust survey, *Mapping the Landscape*, the Lister Institute was listed as one of the key charities sponsoring peer-reviewed medical research in the UK. Coming 12th on the list, the Institute is much smaller than most of the charities above it – and many below it – and its position is a testament to the skills and dedication of everybody involved in the Institute's activities. With this team behind us we can look forward to the future with every confidence.

Finally, I would like to express my thanks once again to those former Governors and Scientific Advisory Committee members whose advice, support and assistance have contributed so much to the success of the fellowship scheme. On your behalf I wish them every success and happiness and I am sure our paths will continue to cross.

Anne McLaren *Chair*

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

The White House, High Road, Bushey Heath, Hertfordshire WD2 3JG

FINANCIAL STATEMENTS

for the year ended 31 December

1999

The Lister Institute of Preventive Medicine
is a company limited by guarantee (*England 34479*)
and a registered charity (*206271*)

THE GOVERNING BODY

Dr Anne L McLaren, DBE, MA, DPhil, FRCOG, FRS, *Chair*

Peter W Allen, MA, FCA, CIMgt, *Hon Treasurer*

G James M Buckley

Professor H John Evans, CBE, PhD, FRCPE, FRSE

C Edward Guinness, CVO

Hon Rory Guinness

Professor Sir Alec Jeffreys, DPhil, FRS

Dr Alan Munro, PhD

Professor William V Shaw, MD

Professor J G Patrick Sissons, MD, FRCP, FRCPath

Professor Anne E Warner, PhD, FRS

Secretary, and Clerk to the Governors: F K Cowey, MA, BSc, DAS

FINANCIAL REPORT OF THE GOVERNING BODY

for the year ended 31 December 1999

The Institute is a company limited by guarantee and has charitable status.

The Governing Body presents the financial statements of the Institute for the year ended 31 December 1999. A separate Report of the Governing Body is prepared.

Results

The results of the Institute for the year ended 31 December 1999 are set out on page 5.

The net deficit for the financial year is £205,000 (1998: net deficit £236,000).

The value of the Institute's cash and investments increased in aggregate by £3.31 million during the year (1998: £1.24 million increase).

The governors confirm that sufficient funds are available to fulfil the obligations of the Institute.

Principal activities

The income of the Institute is utilised to support medical research.

Future operations

It is expected that during 2000 a further five fellowships will be awarded, each for a period of five years. The total of twenty-seven fellowships currently being funded will decline to twenty-five as those Fellows with extensions to their fellowships complete them this year and a deferred fellowship starts.

Changes in fixed assets

The movements in fixed assets during the year are set out in note 7 to the financial statements.

Financial issues and reserves

The Institute, which does not seek to raise funds from the public, depends primarily on investment income to meet its pension payments, administrative expenditure and research fellowship awards. Costs tend to increase year by year due to inflation and other salary changes.

The Governing Body wishes to award in perpetuity as many fellowships as it can prudently grant to

candidates of an appropriate standard. Therefore it seeks to maximise its investment performance by prudent management.

The performance of the investment portfolio is reviewed by the Investment Sub-Committee which has quarterly meetings with the investment managers and receives regular reports. The investment policy is reviewed on an annual basis.

Reserves are necessary to safeguard the Institute against any shortfalls of net income which may arise and to enable the Institute to continue to award five fellowships, each for five years annually, and to authorise the extension of certain fellowships and, in some years, an additional fellowship award.

Year 2000

The Institute has undertaken a review of its business systems in relation to the Year 2000 and is not aware of any issues that could materially affect its finances. Any costs in relation to Year 2000 will be expensed as they are incurred.

Governing Body

The members of the Governing Body who served at any time during 1999 are shown on page 1.

Governors' responsibilities

The governors are required by United Kingdom company law to prepare financial statements for each financial year that give a true and fair view of the state of affairs of the Institute as at the end of the financial year and of the income and expenditure of the Institute for that period.

The governors confirm that suitable accounting policies have been used and applied consistently and reasonable and prudent judgements and estimates have been made in the preparation of the financial statements for the year ended 31 December 1999. The governors also confirm that applicable accounting standards have been followed and that the financial statements have been prepared on the going concern basis.

FINANCIAL REPORT OF THE GOVERNING BODY *(CONTINUED)*

for the year ended 31 December 1999

The governors are responsible for keeping proper accounting records which disclose with reasonable accuracy at any time the financial position of the Institute and enable them to ensure that the financial statements comply with the United Kingdom Companies Act 1985. The governors are also responsible for safeguarding the assets of the Institute and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

Auditors

A resolution to re-appoint PricewaterhouseCoopers as auditors will be proposed at the General Meeting.

DR ANNE L McLAREN

Chair

21 June 2000

REPORT OF THE AUDITORS

to the members of The Lister Institute of Preventive Medicine

We have audited the financial statements on pages 5 to 11 which have been prepared under the historical cost convention and the accounting policies as set out on page 7.

Respective responsibilities of governors and auditors

The Institute's governors, who also act as trustees for the charitable activities of The Lister Institute of Preventive Medicine, are responsible for preparing the annual report including, as described on page 2, the financial statements in accordance with applicable United Kingdom accounting standards. Our responsibilities, as independent auditors, are established in the United Kingdom by statute, the Auditing Practices Board and our profession's ethical guidance.

We report to you our opinion as to whether the financial statements give a true and fair view and are properly prepared in accordance with the United Kingdom Companies Act. We also report to you if, in our opinion, the governors' report is not consistent with the financial statements, if the company has not kept proper accounting records, if we have not received all the information and explanations we require for our audit, or if information specified by law regarding directors' remuneration and transactions is not disclosed.

We read the other information contained in the annual report and consider the implications for our report if we become aware of any apparent mis-statements or material inconsistencies with the financial statements.

Basis of audit opinion

We conducted our audit in accordance with Auditing Standards issued by the Auditing Practices Board. An audit includes examination, on a test basis, of evidence relevant to the amounts and disclosures in the financial statements. It also includes an assessment of the significant estimates and judgements made by the governors in the preparation of the financial statements, and of whether the accounting policies are appropriate to the Institute's circumstances, consistently applied and adequately disclosed.

We planned and performed our audit so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the financial statements are free from material mis-statement, whether caused by fraud or other irregularity or error. In forming our opinion we also evaluated the overall adequacy of the presentation of information in the financial statements.

Opinion

In our opinion the financial statements give a true and fair view of the state of the Institute's affairs at 31 December 1999 and of its net deficit for the year then ended and have been properly prepared in accordance with the United Kingdom Companies Act 1985.

PRICEWATERHOUSECOOPERS

Chartered Accountants and Registered Auditors
London

21 June 2000

STATEMENT OF FINANCIAL ACTIVITIES

for the year ended 31 December 1999

	Notes	1999 £'000	1998 £'000
INCOME AND EXPENDITURE			
Incoming resources			
Investment income	2	1,305	1,269
Interest receivable		54	76
Other income	3	38	82
Total incoming resources		1,397	1,427
Resources expended			
<i>Direct charitable expenditure:</i>			
Grants	6	(1,297)	(1,276)
<i>Other expenditure:</i>			
Expenditure on the management & administration of the charity:			
Investment management fees		(84)	(89)
Salaries	4	(75)	(70)
Pension costs	11	(85)	(152)
Miscellaneous	5	(61)	(76)
		(305)	(387)
Total resources expended		(1,602)	(1,663)
Net outgoing resources for the year		(205)	(236)
GAINS/(LOSSES) ON INVESTMENT ASSETS			
Realised	13	5,462	2,505
Unrealised	13	(2,034)	(1,040)
Net movement in funds		3,223	1,229
Capital and funds at beginning of year		33,939	32,710
Capital and funds at end of year		37,162	33,939

All items in the above Statement of Financial Activities relate to continuing operations for both years. The Institute has no other recognised gains and losses other than as stated above and hence no separate statement has been shown. Auditors' report page 4.

The notes set out on pages 7 to 11 form part of these financial statements.

BALANCE SHEET

at 31 December 1999

	Notes	1999 £'000	1998 £'000
Fixed assets			
Tangible assets	7	249	255
Investments	8	36,504	33,568
		<u>36,753</u>	<u>33,823</u>
Current assets			
Debtors	9	83	141
Cash at bank and in hand	8	1,233	861
		<u>1,316</u>	<u>1,002</u>
Creditors:			
amounts falling due within one year	10	(405)	(382)
Net current assets		<u>911</u>	<u>620</u>
Total assets less current liabilities		<u>37,664</u>	<u>34,443</u>
Provision for liabilities and charges	11	(502)	(504)
		<u>37,162</u>	<u>33,939</u>
Capital and funds			
Unrestricted general fund	13	<u>37,162</u>	<u>33,939</u>

These financial statements were approved and signed by the Governing Body on 21 June 2000.

DR ANNE L McLAREN	Members of the
PETER W ALLEN	Governing Body

The notes set out on pages 7 to 11 form part of these financial statements.
Auditors' report page 4.

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 December 1999

I Principal accounting policies

The financial statements have been prepared in accordance with applicable Accounting Standards in the United Kingdom including the Statement of Recommended Practice "Accounting by Charities" issued in October 1995. A summary of the more important accounting policies is set out below.

(a) Basis of accounting

The financial statements are prepared in accordance with the historical cost convention modified by the revaluation of investments.

(b) Tangible fixed assets

Tangible fixed assets are stated at their purchase price, together with any incidental expenses of acquisition. Provision for depreciation is made so as to write off the cost of fixed assets on a straight line basis over the expected useful life of the fixed assets concerned. The principal annual rate used for this purpose is:

Land and buildings 2%

Expenditure incurred on minor office equipment is written off on acquisition.

(c) Investments

Investments are shown at market value in the balance sheet. Changes in the market value are included in the general fund in the year in which they arise. Investments denominated in foreign currencies are valued at year-end rates of exchange.

(d) Royalties

Royalties are accounted for on an accruals basis.

(e) Grants

Grants to the Institute's Research Fellows approved for disbursement in the year are accrued for as liabilities in the financial statements.

(f) Direct charitable expenditure

Direct charitable expenditure comprises all expenditure directly relating to the objects of the charity.

(g) Supplementary pensions and staff pensions

Provision is made in the financial statements for the total estimated future supplementary payments, discounted to reflect the timing of the payments. This represents the estimated amount that would have to be invested were the supplementary pensions to be separately funded ("the notional investment").

In addition, provision is also made for the total estimated future pension costs for two employees still in service with the Institute.

The provision for future supplementary pension costs and the charge to the Statement of Financial Activities are calculated every three years by an independent professionally qualified actuary. Any surplus or deficiency in the provision is recognised immediately.

The provision and charge to income have been calculated on the basis of an actuarial valuation as at 1 January 1998, using the following main assumptions:

- the number of persons to whom supplementary pensions are paid will not increase significantly;
- the return on the notional investment will be 6%;
- employees currently in service will retire at 65.

2 Income from fixed asset investments

	1999	1998
	£'000	£'000
Listed investments	<u>1,305</u>	<u>1,269</u>

3 Other income

	1999	1998
	£'000	£'000
Rental income	6	5
Royalty income	45	114
Share of royalties payable to third parties	(13)	(37)
	<u>38</u>	<u>82</u>

The royalties relate mainly to the DNA probe which is being marketed by a licensee.

4 (a) Emoluments of members of the Governing Body

No member of the Governing Body received any emoluments in respect of services to the Institute during the year (1998: nil).

Travel expenses incurred by members of the Governing Body in connection with their attendance at meetings are reimbursed.

Members of the Governing Body who are also members of the Scientific Advisory Committee receive remuneration in relation to their services to the committee. Remuneration of £600 (1998: £600) was paid to one of the members.

(b) Employee information

The average number of persons employed by the Institute during the year was 3 (1998: 3), all of whom were employed in an administrative capacity. No employee earned £40,000 p.a. or more.

(c) Salaries

	1999	1998
	£'000	£'000
Gross salaries	68	65
Employer's national insurance and state pension contributions	7	5
	<u>75</u>	<u>70</u>

5 Miscellaneous expenditure

	1999	1998
	£'000	£'000
Office expenses	15	17
Travel expenses	7	5
Auditors' remuneration - audit fee	9	8
Professional fees	4	8
Depreciation	6	5
General expenses	20	33
	<u>61</u>	<u>76</u>

6 Grants

Grants of £1,297,000 (1998: £1,276,000) were made during the year. These represent amounts approved for disbursement to the Institute's Research Fellows in respect of the year ended 31 December 1999.

7 Tangible fixed assets

	Land and buildings
Cost	£'000
At 1 January 1999	272
Additions	1
Disposals	0
At 31 December 1999	<u>273</u>
Depreciation	
At 1 January 1999	17
Charge for year	6
Disposals	0
At 31 December 1999	<u>23</u>
Net book value	
At 31 December 1999	<u>250</u>
At 31 December 1998	<u>255</u>

8 Investments

Investments comprise listed investments which are valued at middle market quotations ruling at the year-end. Investments are primarily in UK equities, UK unit trusts and Government bonds, with the exception of £435,000 in US Government bonds (1998: nil).

	1999	1998
	£'000	£'000
Market value at beginning of year	33,568	31,810
Purchases during the year at cost	21,200	9,800
Proceeds of sales during the year	(21,701)	(9,507)
Changes in market value of investments held at end of financial year	3,437	1,465
Market value at end of year	<u>36,504</u>	<u>33,568</u>
Historical cost at end of year	<u>27,358</u>	<u>22,389</u>
Significant shareholdings, exceeding 5% of the value of investments, exist in the following:		
	1999	1998
	£'000	£'000
British Telecommunications plc	<u>2,033</u>	<u>1,349</u>

Included in cash is £733,000 (1998: £249,000) of cash held by the investment manager for reinvestment.

9 Debtors

	1999 £'000	1998 £'000
Prepayments and accrued income	80	113
Other debtors	3	28
	<u>83</u>	<u>141</u>

10 Creditors: amounts falling due within one year

	1999 £'000	1998 £'000
Accruals	180	377
Other creditors including taxation and social security	225	5
	<u>405</u>	<u>382</u>

11 Provision for liabilities and charges

This represents a provision for future supplementary pension payments, in respect of ex-employees, based on their salary and length of service, and provision for two current employees' pension costs. The pensions are unfunded, with payments made out of the Institute's funds as they fall due. These supplementary pensions paid are increased annually in line with published government figures.

The results of the actuarial valuation carried out in 1998 determined the provision brought forward at 1 January 1998 to be insufficient to cover future supplementary pension payments and the costs associated with providing pensions for two current employees. This was reflected in the increased charge to the Statement of Financial Activities in 1998 in accordance with the Institute's accounting policy to recognise any deficiency immediately.

Movements in the provision during the year were as follows:

	1999 £'000	1998 £'000
Provision at beginning of year	504	435
Charge to Statement of Financial Activities	85	147
Pensions paid	(87)	(78)
Provision at end of year	<u>502</u>	<u>504</u>

12 Donations received to date

	£'000
Donations have been received to date from:	
Dr Ludwig Mond (1893)	2
Berridge Trustees (1893-1898)	46
Worshipful Company of Grocers (1894 and 1969-1973)	15
Lord Iveagh (1900)	250
Lord Lister's Bequest (1913-1923)	19
William Henry Clarke Bequest (1923-1926)	7
Rockefeller Foundation (1935-1936)	3
Wolfson Foundation (1969-1973)	300
Jenner Memorial Studentship Fund (1984)	48
Professor William Bulloch Bequest (1990)	6
Other donations and legacies (1891-1999)	72
Centenary donations: Coopers & Lybrand	5
Guinness plc	5
ICI plc	5
Worshipful Company of Grocers	5
Courts & Co	5
MacFarlanes	1
	<u>794</u>

13 Unrestricted general fund

	Realised £'000	Unrealised £'000	Total £'000
Balance at beginning of year	22,760	11,179	33,939
Movement in value of fixed asset investments	5,462	(2,034)	3,428
Deficit for the year	(205)	-	(205)
Balance at end of year	<u>28,017</u>	<u>9,145</u>	<u>37,162</u>

14 Financial commitments

The Institute is committed to paying the salaries and expenses of the present twenty-seven Research Fellows plus one additional Research Fellow whose fellowship is due to commence in June 2000 (1998: twenty-eight) over the remainder of their fellowship period (maximum five years). The amounts involved, assuming a 4% per annum increase are as follows:

	1999 £'000	1998 £'000
Payable within one year	1,392	1,346
Payable within two to five years	3,606	2,879
	<u>4,998</u>	<u>4,225</u>

In addition to the above commitments, it is the Institute's intention to award at least five new Fellowships annually (each for a period of five years) for the foreseeable future.

THE LISTER INSTITUTE OF PREVENTIVE MEDICINE

The White House, High Road, Bushey Heath, Hertfordshire WD2 3JG

REPORT OF THE GOVERNING BODY

2000

The Lister Institute of Preventive Medicine
is a company limited by guarantee (England 34479)
and a registered charity (206271)

THE GOVERNING BODY

Dr Anne L McLaren, DBE, MA, DPhil, FRCOG, FRS, *Chair*

Peter W Allen, MA, FCA, CIMgt, *Hon Treasurer*

G James M Buckley

Professor H John Evans, CBE, PhD, FRCPE, FRSE

C Edward Guinness, CVO

Hon Rory Guinness

Professor Sir Alec Jeffreys, DPhil, FRS

Dr Alan Munro, PhD

Professor William V Shaw, MD

Professor J G Patrick Sissons, MD, FRCP, FRCPath

Professor Anne E Warner, PhD, FRS

Secretary, and Clerk to the Governors: F K Cowey, MA, BSc, DAS

Solicitors

Macfarlanes
10 Norwich Street
London, EC4A 1BD

Auditors

PricewaterhouseCoopers
1 Embankment Place
London, WC2N 6NN

SCIENTIFIC ADVISORY COMMITTEE

Professor William V Shaw, MD, *Chair*

Professor Leszek Borysiewicz, PhD, FRCP

Professor Nicholas D Hastie, PhD, FRSE

Professor Robert H Michell, DSc, FRS

Professor Jean O Thomas, CBE, ScD, FRS

Professor Cheryl Tickle, MA, PhD

Professor Alain R M Townsend, FRS (*appointed October 1999*)

Professor Andrew J McMichael, MB, BChir, PhD, FRCP, FRS, retired in October 1999

ANNUAL GENERAL MEETING 21 JUNE 2000

REPORT OF THE GOVERNING BODY

The last 25 years have seen momentous changes in the affairs of the Lister Institute. After many years of scientific success, the Chelsea laboratories closed in 1975 because of financial pressures, to be followed three years later by the closure of the production facilities at Elstree. Following the take-over of the Elstree site by the DHSS and the successful sale of the Chelsea site in 1980, a new Fellowship scheme was launched in 1982. Thanks to the efforts of the young scientists themselves, by the end of the century Lister Institute Research Fellowships were regarded as highly prestigious awards and almost as a guarantee to a successful research career. Now, however, we move into the new millennium in a more thoughtful mood. The Institute operates in a changing and competitive environment and faces new challenges, which it must address if it is to continue as a successful medical research charity. The strategy being adopted by the Governing Body to guide the Institute through these challenges is presented below.

Governing Body

The only change to have occurred to the membership of the Governing Body in the last year reflects the fact that Mr Edward Guinness who, with 30 years' service, was the longest serving governor, had reached the formal retiring age for elected members of the Governing Body. Seeking to exploit and preserve his unique experience and enthusiasm, the Governing Body unanimously agreed to appoint Mr Guinness as a co-opted member of the Governing Body, and gave him primary responsibility for overseeing the production of a new concise history of the Lister Institute. For the moment the position of elected governor has been kept vacant until a clear decision can be made as to the skills needed on the Governing Body, which could be brought on board by the new elected member.

The Governing Body, on behalf of the Institute, records its appreciation of the contributions made by Mr Guinness, which is in keeping with the long traditions of the productive association between the Institute and the Guinness family.

Scientific Advisory Committee

The Governing Body reports that Professor Andrew McMichael, from the Institute of Molecular Medicine at the John Radcliffe Hospital, Oxford, retired by rotation from

the committee in 1999. He was replaced by Professor Alain Townsend. Professor Townsend is the Professor of Molecular Immunology at the John Radcliffe Hospital in Oxford. Given his medical and scientific background, Professor Townsend will bring breadth, insight and experience to the deliberations of the Scientific Advisory Committee. The Governing Body wishes Professor McMichael every success in his career and thanks him for the important contributions he has made to the Scientific Advisory Committee over the last six years.

Institute Membership

Three fellows, who completed their fellowships in 1999, namely Dr John Davey from the University of Warwick, Professor Chris Hunter from the University of Sheffield, and Professor Ian Roberts from the University of Manchester, have been welcomed into membership. Another former fellow, Dr Penny Stein, has been welcomed into membership following her return to the UK from Canada. Professor Bob Michell from the University of Birmingham has also accepted with pleasure the invitation to become a Member of the Institute, having served as a member of the Scientific Advisory Committee for one year.

Because of the increasingly divergent interests of the Lister Institute and the Royal Agricultural Society of England, the RASE has found itself unable to nominate an appropriate person to represent them following the retirement of Professor Alasdair Steele-Bodger and has reluctantly withdrawn from membership of the Institute. We also report that Dr Alison Jones, a consultant physician in the Medical Toxicology Unit at Guy's and St Thomas' Hospital, London, has been appointed as a representative of the Royal College of Physicians, Edinburgh, in place of Dr Mary Carter who resigned after five years of service.

It is with regret that we report the death of Professor Ralph Kekwick, a former staff member and a Member of the Institute, who died at the age of 91 in January of this year. Professor Kekwick first came into the Institute in 1937 as an MRC Fellow, and became a member of staff in 1940 and Head of the Division of Biophysics in 1943. He remained in this position until 1971, when he took early retirement to look after his first wife. Ralph Kekwick made major contributions to the nation's understanding of the preservation of plasma, its fractionation and the isolation of vital products from blood. For his work he was elected a member of the Royal Society in 1966. Professor Kekwick had a long and productive retirement, and continued to be an active member of the Institute until very recently and we very much mourn his passing.

Financial Matters

As the Institute is dependent solely on its investment income to fund its charitable activities, it is not able to take advantage of recent budgetary changes that help fund-raising charities. It therefore has to address the problems associated with the progressive loss of ACT credits over the period 1999-2004, which will result in a significant loss of dividend income, and steadily rising costs.

(a) Financial Statements

The Financial Statements for 1999 show a capital and funds balance at the year-end of £37.21 million (1998: £33.94 million). The value of the Institute's cash and investments increased by approximately £3.31 million during the year (1998: £1.24 million) and investment income was £1.31 million (1998: £1.27 million). The gross income for the year was £1.40 million (1998: £1.43 million). The Institute's direct charitable expenditure on grants rose to £1.3 million (1998: £1.28 million) and further expenditure was £305,000 (1998: £387,000). Total expenditure for the year was £1.60 million (1998: £1.66 million). The Institute therefore had a net deficit for the year of £205,000 (1998: net deficit of £236,000). Incoming resources declined, despite a small increase in investment income, because of falls in interest payments and in royalties received. The fall in interest reflects both the low interest rates and also the declining value of the Institute's cash reserves on which interest can be levied. A small additional provision has been made for the supplementary pensions since there has only been one death in the last year, and provision has to be made for one current staff member who may retire within the next twelve months.

(b) Reserve Policy

The policy of the Governors is to maintain adequate financial resources to provide income to meet current and future commitments as they fall due and ensure that adequate funds remain available to enable them to award Lister Institute Research Fellowships in perpetuity. The Institute's current commitments are estimated at £5 million at today's costs, representing the salaries and expenses of the present Research Fellows over the remainder of their fellowship period (1998: £4.23 million). Currently the reserves and investment income are sufficient to meet these commitments. Future commitments will be incurred from the annual award of five-year senior research fellowships. The number to be awarded will be reviewed each year in the light of the prevailing financial resources, but it is anticipated that the practice of awarding five fellowships per year will be continued for as long as practicable.

(c) Investment Policy

Last year's report referred to the need to move to a total return policy, in view of the reduction in ACT credits and other sources of income. In addition, the stock market has continued to be volatile. Against this background, and after extensive discussions with Fleming Investment Management Limited, our investment managers, the Governing Board, working through the Investment Sub-Committee has revised its investment strategy.

The Institute's investment objective is to develop and maintain its financial resources through the selection of investments, consistent with an acceptable level of risk, in a range of different investment categories. Over the course of the year the Institute's Investment Portfolio has been re-structured so that, instead of following the "constrained by income" charity model, the portfolio is based on an "unconstrained" charity portfolio and a total return strategy. The basic components of this change have involved broadening the spread of UK equities, investing in overseas equities, primarily through pooled funds, reducing the level of investment in UK gilts, and also investing at a low level in overseas bonds and a property unit trust. It is believed that this revised portfolio will offer sufficient capital growth for the foreseeable future to allow some of this growth to be withdrawn as cash to supplement the reduced dividend and interest income while maintaining reserves at a level that will enable the commitments to be met in perpetuity. A benchmark has been agreed with the investment managers, as have performance indicators and a number of restrictions on their activities. The Investment Sub-Committee of the Governing Body will continue to meet quarterly with representatives of Fleming Asset Management. The investment policy will be reviewed on an annual basis.

(d) The Investment Market

While overall the last 12 months can be characterised as a period of continued growth, they have also been accompanied by an increasing amount of market volatility. There has also been a great deal of restructuring within the market place and a certain polarisation of equity values. Stocks in the technology, media and telecommunications sectors have risen rapidly in value because of the promise of future growth and profits. In contrast many older, well-established and still profitable businesses have been written down. They are seen to be operating in mature markets with more limited growth potential. There has also been a significant amount of restructuring through large company mergers and the globalisation of activities. In this situation, investment in equities is inevitably more risky and it is therefore

important to diversify the portfolio. The proportions held in various investments at year-end under the control of Fleming Asset Management were: UK equities 68%, overseas equities 12%, bonds 15%, property 3%, cash 2%. (*In 1998 the comparable holdings were UK equities 75%, UK bonds 24% and cash 1%.*) More limited restructuring will continue throughout the year 2000.

(e) Income from the Exploitation of Research

The gross royalty income received by the Institute in 1999 was £45,000 (1998: £114,000). After payment of royalties to third parties, the royalty income fell to £32,000 (1998: £77,000). Most of this year-on-year decline is attributable to a drop in the royalties paid to the Institute by Cellmark Diagnostics. This reduction can be attributed in part to a drop in the sale of probes, but primarily to a switch from the technology owned by the Lister Institute to PCR (polymerase chain reaction)-based technology. Although no cheaper materially, PCR technology has the advantage that it is easy to automate and requires a much smaller blood sample to carry out the test, making testing much less stressful for young children. Use of the Institute's more accurate MLP/SLP technology has continued for immigration testing, but it is expected that this will probably decline in future years. There has also been a fall in the royalty income paid to the Institute by the University of Leicester. This reflects a fall in the sales of DNA gyrase, mainly because of the absence of large orders rather than a fall in the number of customers.

Year 2000 Computer Problem

Like every other organisation the Institute had to consider the potential impact and extent of any Year 2000 problems on its operations and their possible implications. While the risks to the Institute itself were not felt to be significant, all the Institute's hardware and software were screened and, where necessary, upgraded. Assurances were sought from all its financial suppliers and the universities with which it dealt to ensure that they too were taking appropriate precautions. In the end no problems of any description were encountered.

History of the Lister Institute

Although the Institute celebrated its centenary in 1991 and the 100th anniversary of the establishment of its Chelsea Bridge facilities and the donation by Lord Iveagh was in 1998, it was felt appropriate to mark the millennium by commissioning a concise

history of the Institute. This is being written by Professor Leslie Collier, a former staff member, who has been working closely with Mr Edward Guinness on this task. This book will replace, for general distribution purposes, the Commemorative Review which was produced in 1991. It will be accompanied by a supplement listing members, fellows and others that will be updated on a regular basis. The research for this book has illustrated again the breadth of the activities of the Lister Institute over the years and the very important part it has played in the developing health of the UK population. It also demonstrated that there might be a need for more archiving so that, if appropriate, a more detailed history of the Institute could be written at some time in the future.

Research Fellowship Scheme

Lister Institute Research Fellowships continue to be regarded as highly prestigious awards and a significant research opportunity for all who receive them. This year, as in all previous years, there has been keen competition for awards. Fellows and former fellows are all highly motivated, a measure of which is the fact that around 60% of all former fellows now hold chairs of one kind or another. There is, however, no opportunity for complacency, as the academic environment is changing. The Institute has to recognise that there are now more bodies awarding senior and junior research fellowships than there were 10 or 15 years ago. At the same time the Wellcome Trust, the biggest awarder of fellowships, is able to pay significantly higher salaries than the Institute and most other charities, so the competition to attract the best young scientists is greater than it was.

In order to ensure that the Institute's fellowship scheme maintains its own unique niche, the Scientific Advisory Committee has been considering possible amendments to the format of the fellowship scheme. Clearly, every effort has to be made to maintain the prestigious status of the fellowship scheme, and the number of the awards must not be reduced to the extent that the scheme is marginalised. Opportunities for funding younger scientists with novel ideas must be retained and young applicants encouraged, while the Institute should retain its breadth of vision, its wide range of scientific interests and as much administrative flexibility as possible. After reviewing the Committee's recommendations, the Governors have decided that the Fellowship will remain a five-year award, open to both clinicians and non-clinicians, and to tenured and non-tenured applicants, with extensions granted only in exceptional

circumstances. All applicants will receive the same consumables allowance, and the Institute will continue to pay the salary of the actual fellow and not the salary of a replacement lecturer. In acknowledgement of the financial constraints the Institute faces, it was agreed that the salary cap should be lowered to the mid-point of the reader scale/the top of the lecturer scale for non-clinicians, and that for clinicians the cap should be dropped from the consultant scale to the top of the senior registrar scale. The most important change to be implemented from 2001 will be a lowering of the age limit for non-clinicians from 35 to 33 years and for clinicians from 37 to 35 years. This will not only reduce costs but will also ensure that fellows are young enough to be still eligible to apply to other organisations for fellowships at the end of their Lister fellowship.

The Governing Body reports that Dr Robert Insall from the University of Birmingham, who was offered a fellowship in 1999, regretfully declined the offer in favour of an MRC senior fellowship. This included a generous equipment allowance that he would have found hard to match from other sources. The fellowship was then offered to, and accepted by, Dr Ilan Davis from the University of Edinburgh. This maintained the number of fellowships awarded in 1999 at five.

The Fellowship Weekend at Christ's College, Cambridge, in September 1999 was again highly successful. The meeting followed the same format as previous years, except that as well as thanking Christ's College for looking after us so well, we have to thank Dr Alan Munro, Master of Christ's, for allowing us to hold the evening reception in the Master's Garden. This was an innovation and was appreciated by everybody. Five Fellows spoke for the first time. These were Dr Andrew Carmichael (University of Cambridge), Dr Vincent Cunliffe (University of Sheffield), Dr Frances Platt (University of Oxford), Dr Andy Sharrocks (University of Manchester), and Dr Magdalena Zernicka-Goetz (University of Cambridge). Three fellows, Dr John Davey (University of Warwick), Professor Chris Hunter (University of Sheffield), and Dr Jane McKeating (University of Reading), were speaking for a second time, and were able to report on the way their research had progressed in the three or four years since they last spoke at the meeting. The final speaker was Dr Alex Law of the University of Oxford. He was a fellow from 1982 to 1986, and described the way in which his research had developed in the period since his fellowship was completed. The next weekend meeting, the 16th, will be held at Christ's College, Cambridge, on 1 & 2 September, 2000.

Current Lister Institute Research Fellows

The Governors warmly congratulate:

Dr Peter Cullen, University of Bristol, on his promotion to Reader from 1 August 1999.

Professor Ian Day, University of Southampton, on his appointment as Head of Division in the Institute of Genetics from 1 October 1999.

Dr Tom Evans, Imperial College School of Medicine, on his appointment as Reader in Infectious Diseases from 1 October 1999.

Professor Pedro Lowenstein, University of Manchester, on his appointment as a member of the MRC's Medical Advisory Board.

Dr Kate Nobes, University College London, on her appointment as Group Leader in the MRC Laboratory for Molecular Cell Biology, and as Lecturer in the Department of Anatomy and Developmental Biology from 1 October 1999.

Dr Frances Platt, University of Oxford, on her appointment to a Research Reader position from 1 October 1999, and the award of a Merton Fellowship from 1 October 1999.

Dr Penny Rashbass, University of Sheffield, on her appointment to a Lecturer position on 1 September 1999.

Professor Nigel Scrutton, University of Leicester, who was promoted to Professor of Biochemistry with effect from 1 October 1999, the start of his Lister Institute Research Fellowship.

Professor Jon Waltho, University of Sheffield, on his appointment to a personal chair of Molecular Biology from 1 October 1999.

Professor Robert White, University of Glasgow, who was promoted to Professor of Gene Transcription with effect from 1 October 1999.

The Governors wish to report that the following fellows completed their fellowships:

on 31 July 1999:

Dr Jane McKeating, University of Reading, resigned her Fellowship two months early when she moved to Pfizer's Research Department to become the Head of Virology.

on 30 September 1999:

Dr John Davey, University of Warwick, after five years.

Dr Philip Evans, University of Cambridge, after four years (when he resigned for personal reasons).

Professor Chris Hunter, University of Sheffield, after five years.

The Governors wish to report that:

Dr Kim Watson, University of Oxford, deferred the start of her Fellowship by two months to 1 December in order to complete the Fellowship she held previously with the British Diabetic Association and that, exceptionally,

Dr Ilan Davies, University of Edinburgh, was given permission to defer the start of his Fellowship until 1 June 2000 in order that he could complete his Wellcome Trust Fellowship.

Former Lister Institute Research Fellows

The Governors warmly congratulate:

Professor Jeff Almond, University of Reading, a Fellow from 1984 to 1986, on his appointment as Vice-President of Research and Development (France) at Pasteur Mérieux Connaught, Lyons, from 1 March 1999.

Dr Rosa Beddington, NIMR, a Fellow from 1983 to 1988, who was elected a Fellow of the Royal Society in May 1999.

Professor Leszek Borysiewicz, University of Wales College of Medicine, a Fellow from 1983 to 1987, on his appointment as Chairman of the Hospital-based Clinical Subjects Unit of Assessment panel for the 2000 research assessment exercise.

Professor Ann Burchell, University of Dundee, a Fellow from 1989 to 1994, on her appointment as Professor of Molecular Medicine on 1 February 2000.

Professor Tony Clarke, University of Bristol, a Fellow from 1993 to 1998, on the award of a Personal Chair from 1 August 1999, and on his part-time secondment by the MRC to head the Protein Group within the MRC's Prion Unit.

Professor Paul Eggleston, University of Liverpool, a Fellow from 1987 to 1995, who was appointed Professor of Molecular Entomology at Keele University with effect from 1 September 1999.

Dr Penny Stein, University of Cambridge, a Fellow from 1990 to 1994 and from 1995 to 1996, on the award of a Wellcome Senior Clinical Fellowship in October 1998. Dr Stein has now moved back from Canada to the Department of Haematology at Addenbrooke's Hospital, Cambridge.

Research Fellowships 2000

As a sign of changing technology, most enquiries for application forms are now received at the Institute by email, a few by telephone, but hardly any by letter. This year the number of enquiries was 214 (292 in 1999). This is the lowest number of enquiries since 1995. Fifteen of the enquiries were received from over-age applicants; of these, five were approved and all led to applications. The number of applications approved for consideration by the Scientific Advisory Committee for Fellowships to start on 1 October 2000 was 69 (80 in 1999). Eight of these applicants were clinicians and one was a pharmacist. Nineteen were women and nine were non-UK citizens. Only one of the applicants was under 30, with 19 being 32 or under. Twenty-one of the applicants already held tenure within the employing institution. Following their usual practice, the Scientific Advisory Committee shortlisted and interviewed 12 candidates, including two women, one of whom was the only clinician interviewed. Despite it being the last year in which 35-year-old non-clinicians could apply for fellowships, the average age for shortlisted candidates fell to 33 (34 in 1999). The quality of the science proposed by all 12 shortlisted candidates was excellent and all the research proposals had significant implications for preventive medicine. The candidates offered Fellowships after interview were:

Name	Place where research will be carried out	Title of Research Proposal
FRY, Andrew M BA, DPhil	Department of Biochemistry, University of Leicester	Cell cycle regulation of the centrosome.
McGLYNN, Peter ** BSc, PhD	Institute of Genetics, University of Nottingham	Maintaining genome stability: causes and consequences of damage to replication forks.
PAREKH, Anant B MA, DPhil	Laboratory of Physiology, University of Oxford	Regulation of calcium signalling and calcium-dependent exocytosis in mast cells.
ROBERTS, Stefan G E BSc, PhD	Department of Biochemistry, University of Dundee	Mechanisms of transcriptional activation in mammalian cells.
SPRINGER Sebastian H BSc, DPhil	Department of Pathology, University of Cambridge	<i>In-vitro</i> reconstitution of transport and maturation of MHC class I molecules.

** Dr Peter McGlynn was placed first in order of merit by the Committee and was therefore elected Lister Institute-Jenner Research Fellow and the recipient of the Gordon Roderick Travel Scholarship.

Conclusion

To an outsider observing the Institute and its activities, this year has probably seemed like any other year. However, a great deal of work has been going on behind the scenes and I would like to express my thanks to the staff at the Institute, members of the Scientific Advisory Committee, members of the Investment Sub-Committee and my fellow Governors for all their hard work and support. It is a measure of their dedication that, despite the challenges, the Institute is now positioned to continue its charitable work for the foreseeable future. I would also like to express my thanks and appreciation to all Fellows and former Fellows whose hard work and success in their individual fields of research contribute so much to the reputation of the Institute and the prestige associated with the Lister Institute Research Fellowships. I am sure that you share my confidence that this reputation will not only be maintained, but will continue to grow.

Anne McLaren, *Chair*

