



Companies House

AP01 (ef)

Appointment of Director



X2ZMMHKW

Company Name: **THE PIRBRIGHT INSTITUTE**

Company Number: **00559784**

Received for filing in Electronic Format on the: **15/01/2014**

New Appointment Details

Date of Appointment: **19/12/2013**

Name: **SIR BERTIE ROSS**

Consented to Act: **YES**

Service Address: **33 ANHALT ROAD
LONDON
UNITED KINGDOM
SW11 4NZ**

Country/State Usually Resident: **UNITED KINGDOM**

Date of Birth: **27/02/1950**

Nationality: **BRITISH**

Occupation: **CONSULTANT**

Former Names:

Authorisation

Authenticated

This form was authorised by one of the following:

Director, Secretary, Person Authorised, Administrator, Administrative Receiver, Receiver, Receiver Manager, Charity Commission Receiver and Manager, CIC Manager, Judicial Factor.

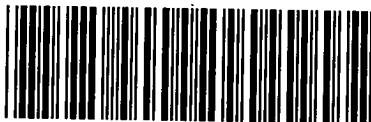
**THE PIRBRIGHT INSTITUTE
(LIMITED BY GUARANTEE)**

**TRUSTEES' REPORT AND FINANCIAL
STATEMENTS**

FOR THE YEAR ENDED

31 MARCH 2014

TUESDAY



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02/12/2014

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COMPANIES HOUSE

Company registered number 559784
Charity registered number 228824

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

TRUSTEES' REPORT AND FINANCIAL STATEMENTS

For the year ended 31 March 2014

Trustees:

Professor Q McKellar CBE - Chair
Mr R Butler
Dr A Craig
Dr T Kanellos
Mr T Key MBE
Mr R Louth
Dr V Mayatt
Sir B Ross
Professor D Rowlands
Mr M Samuel
Professor J Stephenson

Director of the Institute:

Professor J Fazakerley BSc, MBA, PhD, FSB, FRCPath

Secretary:

Mr R S Shaw BA ACA

Registered office:

Pirbright Laboratory
Ash Road
Pirbright
Woking
Surrey
GU24 0NF

Auditor:

Grant Thornton UK LLP
Statutory Auditor
Chartered Accountants
Grant Thornton House
Melton Street
Euston Square
London
NW1 2EP

Bankers:

Lloyds TSB Bank Plc
5 High Street
Swindon
SN1 3EN

Solicitors:

Charles Russell LLP
Buryfields House
Bury Fields
Guildford
Surrey
GU2 4AZ

Penningtons Manches LLP
3 Worcester Street
Oxford
OX1 2PZ

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THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

REPORT OF THE TRUSTEES INCORPORATING THE STRATEGIC REPORT

The Trustee Board has pleasure in submitting its annual report together with the financial statements for the year ended 31 March 2014.

Structure, Governance and Management

Status of the Institute

The Pirbright Institute (the Institute) is a company limited by guarantee (registered number 559784) and a registered charity (number 228824), with statutory directors (Trustee Directors) who form the Trustee Board. Members of the Institute shall be those persons from time to time appointed by the Trustee Directors.

The Trustee Board and its interests

The directors of the Trustee Board during the year were:

The Biotechnology and Biological Sciences Research Council (BBSRC) (resigned 21 November 2013)

Professor Q McKellar CBE (appointed 21 November 2013) - Chair

Mr R Butler (appointed 19 December 2013)

Dr A Craig (appointed 21 November 2013)

Dr T Kanellos (appointed 21 November 2013)

Mr T Key MBE

Mr R Louth (appointed 12 December 2013)

Dr V Mayatt (appointed 12 December 2013)

Sir B Ross (appointed 19 December 2013)

Professor D Rowlands (appointed 12 December 2013)

Mr M Samuel (appointed 21 November 2013)

Professor J Stephenson (appointed 12 December 2013)

Trustee Directors are appointed by the existing Trustee Directors for a period of up to three years, when they are eligible for re-appointment.

The Trustee Board operates through the Institute's Articles Of Association and the Institute Grant Agreement between the Institute and its sponsoring body, BBSRC.

BBSRC fulfilled its role as Corporate Trustee Director, up to its resignation on 21 November 2013, through a team of individual representatives appointed by the BBSRC Council.

Trustee induction and training

The Institute continually reviews its practices for induction and Trustee training. Trustees are encouraged to attend appropriate external training events where these will facilitate the undertaking of their role.

Organisation of the Institute

The Trustee Board and its committee structure work closely with the Director and senior management of the Institute and are responsible for corporate governance and for the Institute's scientific strategy and strategic plans.

The Institute is organised into three strategic Science Programmes spanning two sites, supported by an Operations Division, headed by the Director of Operations and several support service groups. Each Science Programme is managed by a Head of Programme who reports to the Director of the Institute (the Director), as does the Director of Operations. The Trustee Directors have created a Scientific Advisory Board, to provide assistance and recommendations to the Trustee Board regarding the scientific strategy and operations of the Institute.

An Institute Executive Board comprising the Director, the Director of Operations and certain other key managers, meets every month to review progress towards the Institute's objectives and to take corporate managerial and operational decisions within the annual strategy and objectives set by the Trustee Board and agreed with the BBSRC, as its main funder.

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

REPORT OF THE TRUSTEES INCORPORATING THE STRATEGIC REPORT

Employee consultation

The Institute recognises all appropriate Trade Unions representing staff employed at its laboratories. However, the Unions recognised for collective bargaining are Prospect and PCS (Public and Commercial Services). An Institute Negotiating and Consultative Committee (INCC) is in place, with membership drawn equally from the management and Trade Union sides. This provides the necessary machinery for dealing with the consultation and negotiation of the terms and conditions of service agreed by the BBSRC Joint Negotiating and Consultative Committee (JNCC), which at a national level represents all staff within the Research Council and other JNCC organisations.

Disabled persons

The Institute has an established policy of encouraging the employment of disabled persons wherever this is practicable and makes reasonable adjustments to working conditions or to physical features of its premises without which disabled persons would be placed at a substantial disadvantage in comparison with people who are not disabled. The Institute specifically has detailed policies to ensure:

- full and fair consideration of applications
- equal access to progression within the Institute, training and career development.

Policy and practice on payment of suppliers

It is the Institute's policy and practice to settle undisputed sums due to suppliers within the suppliers' standard or specifically agreed credit terms. The average credit period taken during the year was 41 days (2013: 24 days).

Risk management

The Institute conducts its own review of the major risks to which it is exposed and systems have been established to mitigate those risks.

The Institute continues to improve and extend the current system of managing its risks through a risk register database, maintained by the Institute's Risk Manager, which allows risks to be managed more efficiently.

The Trustee Board's Finance and General Purpose Committee is responsible for reviewing the Institute's systems of internal control and financial and other monitoring systems; reviewing the external and internal audit programmes, considering the major findings of investigations and management's response; reviewing the Institute's statement on internal control systems prior to endorsement by the Trustee Board; and generally focusing on the management of risk and contingency plans for all business critical projects.

Trustees' indemnity insurance

The Institute maintains liability insurance for its Trustee Directors, with an annual aggregate cover limit for all claims against them in that capacity. The Trustees have also been granted a qualifying third party provision under section 233 of Companies Act 2006. Neither the Institute's indemnity nor insurance provides cover in the event that a Trustee Director is proved to have acted fraudulently or dishonestly. The premium and related costs in respect of this policy were £7,844 (2013: £2,067).

Objectives and activities

Objective and Mission of the Institute

The primary objective of the Institute is "to conduct and promote scientific surveillance and research on virus diseases and to develop appropriate methods for their control".

The mission of the Institute, for the benefit of the public at large, is "Research and surveillance to prevent virus diseases of livestock and virus transmission from animals to humans".

Public interest activities of the Institute during the year

The Trustee Board has referred to the guidance contained in the Charity Commission's general guidance on public benefit when reviewing the Institute's objectives and mission and planning its scientific activities for the year.

Research at the Institute is focused on understanding the intimate interactions between pathogens, primarily viruses, and their hosts, with a view to developing improved strategies to control, prevent or limit infections. Linked to this goal are practical advances in the rapid and accurate diagnosis of infections, differentiation between infected and

vaccinated animals, improvement in current vaccines, development of new control methods, expansion of surveillance and Reference Laboratory capacities, and the further development and improvement of epidemiology and modelling capabilities. As such, the Institute occupies a unique niche within the United Kingdom for basic, strategic and applied research into infectious diseases of large animals and poultry with the ability to integrate cutting-edge laboratory studies, at the molecular and cellular level, with work in host species at the whole animal and population levels.

Research at the Institute is undertaken through three strategic Science Programmes. The three Science Programmes are in the areas of Avian Virus Diseases, Livestock Virus Disease and Vector-Borne Virus Diseases.

Strategic Report

Achievements and Performance

In the year, the Institute began 31 new externally funded fundamental and strategic research projects with a total value of approximately £13.3m supported by funders from the United Kingdom (principally BBSRC, DEFRA and the Wellcome Trust) and overseas (principally the European Union, the United States National Institute for Health and Department of Homeland Security, the World Health Organisation For Animal Health and the Food and Agriculture Organisation(FAO)).

8 of the 31 projects begun this year involve collaborations with other United Kingdom research institutions, 8 with overseas laboratories and 2 with industrial partners. 2013/14 was a notably successful year in terms of both overall success rates and income generation. The level of grant application activity and overall success rate increased markedly. The success rate in applications to BBSRC (the principal funder of competitively won grants) was well above the national average. Income was significantly boosted by two exceptionally large awards which began this year. Grant income has overall decreased from the prior year, which is primarily a result of reduced capital grants as the DP1 project has neared completion.

There are some uncertainties and challenges ahead which should be noted, namely:

- The potential retirement of a number of high income-generating senior staff over the coming years - key posts for recruitment have been identified and a search committee initiated
- The challenges of maintaining the level of income against a background of static or reduced funding opportunities from the Institute's principal funders – the Institute is seeking to widen the pool of organisations from which it receives funding, with particular focus on the EU
- The impact of the building development programme on grant applications and delivery of science is not yet clear

The Institute's facilities provide a 'National Capability', a resource unique to the UK with a complement of scientific expertise and physical resources that are not replicated elsewhere within the higher education or commercial animal health sectors. Funding from BBSRC underpins this capability and makes The Pirbright Institute an attractive location for potential collaborators from all sectors. The Institute is seeking in particular to increase its engagement with industry through its National Capability.

In addition to fundamental and strategic research, The Pirbright Institute provides expertise and capacity for laboratory investigations to monitor livestock for high consequence viral diseases and underpins global disease control efforts. Specifically, the Institute provides Reference Laboratories in respect of 10 exotic viral diseases of livestock. This work is supported through an additional 11 annually renewable grants from DEFRA, EU and FAO with a total value of approximately £2.7m.

Originally established to support the delivery of Science, the Institute has a farm located adjacent to its research facility at Compton in Berkshire, which has both a commercial dairy and an arable operation. As part of its ongoing review of operations and consolidation onto one site, at Pirbright, a decision was made after the year end to close down the dairy operation at Compton and to undertake a review to determine how best to continue its arable operations at the farm. The dairy operation has now been closed and the cattle sold but no final decision has yet been made regarding the future of the arable operation.

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

REPORT OF THE TRUSTEES INCORPORATING THE STRATEGIC REPORT

Statement of Responsibilities of the Trustee Board

The Trustee Directors are responsible for preparing the Report of the Trustees incorporating the Strategic Report and the financial statements in accordance with applicable law and regulations.

Company law requires the Trustee Directors to prepare financial statements for each financial year. Under that law the Trustee Directors have prepared the financial statements in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards and applicable law). Under company law the Trustee Directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the charitable company and the incoming resources and application of resources, including the income and expenditure, of the charitable company for that period.

In preparing these financial statements, the Trustee Directors are required to:

- select suitable accounting policies and then apply them consistently;
- observe the methods and principles in the Charities SORP;
- make judgments and accounting estimates that are reasonable and prudent;
- state whether applicable UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements;
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charitable company will continue in business.

The Trustee Directors are responsible for keeping adequate accounting records that are sufficient to show and explain the charitable company's transactions and disclose with reasonable accuracy at any time the financial position of the company and enable them to ensure that the financial statements comply with the Companies Act 2006. They are also responsible for safeguarding the assets of the charitable company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Trustee Directors confirm that:

- so far as each Trustee Director is aware, there is no relevant audit information of which the charitable company's auditor is unaware; and
- the Trustee Directors have taken all steps that they ought to have taken to make themselves aware of any relevant audit information and to establish that the auditor is aware of that information.

In addition to its specific statutory responsibilities, the Trustee Board plays an important role in the corporate governance of the Institute. Working through the Director of the Institute, it reviews and challenges strategic aspects of the Institute's sustainable capital investment programme, estate management strategy, human resource policies and information management systems.

Basis of accounting

The Statement of Financial Activities on page 12 and the Balance Sheet on page 13 have been prepared in accordance with the Statement of Recommended Practice: (Accounting and Reporting by Charities) 2005.

Annually the Trustee Directors review the company's key accounting policies to ensure that they continue to be in accordance with the requirements of the Charity SORP and within best accounting practice. No significant changes have been made to these policies from those used in the year ended 31 March 2013. The accounting policies applied by The Pirbright Institute are detailed on pages 9 to 11.

The financial statements are prepared on a going concern basis. Financial forecasts have been prepared to the 31 March 2017 which is considered appropriate in the light of continuing financial support expected to be provided by BBSRC and also the current cash reserves of the Institute. There is however significant uncertainty as described in note 22, relating to the contingent liability for dilapidations and decommissioning costs becoming payable in relation to the Compton site.

It is currently unclear whether the liability will be paid by the Institute or the landlord, or whether the liability is accurately quantifiable. If the liability were to be payable by the Institute, adjustments would be required to the financial statements to provide for any amounts involved.

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

REPORT OF THE TRUSTEES INCORPORATING THE STRATEGIC REPORT

Although the amount is unknown, the potential magnitude of the liability is likely to have a significant impact on the financial statements and would not be able to be funded out of the available cash reserves. Notwithstanding the uncertainty around this potential liability, the Trustees have concluded that it remains appropriate to prepare the financial statements on a going concern basis. This reflects their assessment that in the event that such a liability is payable by the Institute, it would take an extended period of time for such a liability to be agreed and settled. The Trustees also believe it highly unlikely that they would be required to fund the cost without more resources being provided by BBSRC.

Results for the year

Total incoming resources, before fund transfers, amounted to £61,553,000 (2013: £82,994,000). Investment in tangible fixed assets in the year totalled £22,422,000 (2013: £50,107,000). This was substantially funded by grants from BBSRC, Defra and other grant awarding bodies.

Business Review and key performance indicators

The Institute continues to consider and determine the most appropriate Key Performance Indicators by which the development, performance or position of the various elements of its operations can be effectively measured.

The following are considered to be among the Key Performance Indicators:

	2014	2013
Grant and research income (excludes restricted) (£'000)	34,998	29,013
Cost of scientific research (excludes restricted) (£'000)	27,707	28,389
Staff costs (£'000)	17,783	15,820
Average number of staff (number)	376	355

Grant and research income has increased by £1.8m compared to the prior period. The Core Strategic Grant has decreased from £11.3m to £11.0m however other unrestricted BBSRC grants increased from £9.2m to £9.5m. DEFRA funding has decreased between the two periods with grants of £6.4m in 2013 compared to £6.0m in 2014. Staff costs have increased by £2.0m mainly due to the increase in staff numbers and also the redundancy costs associated with the relocation to Pirbright from Compton. Investment within the new laboratories at Pirbright has continued with £22.4m capital additions within the year.

Principal risks and uncertainties

The principal risk and uncertainty for the Institute is that it may not be able to maintain the level of long term funding required to fully achieve its goal of being a world leading high containment facility for research into viral pathogens. Given the fact that the bulk of the Institute's funding is currently from BBSRC and that cuts in government spending are likely to impact the volume of grants available, the Institute is seeking to mitigate this risk by diversifying its sources of funding.

Financial risk management objectives and policies

In common with other businesses, the Institute aims to minimise financial risk. The measures used by the Trustees to minimise this risk include the preparation of incoming resources and cash flow forecasts, regular monitoring of actual performance against these forecasts and ensuring that adequate financing facilities are in place to meet the requirements of the business. Costs are carefully monitored to ensure they remain within the constraints of the budget.

Credit risk

New customers are actively credit checked and the debts are actively chased by the credit control department.

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

REPORT OF THE TRUSTEES INCORPORATING THE STRATEGIC REPORT

Liquidity risk

Working capital requirements are regularly reviewed in conjunction with available financing facilities as part of routine financial management.

Funds and reserves policies

Unrestricted funds

Unrestricted general fund balances are allowed to accumulate only to such a level as is required to enable the Institute to respond to anticipated year on year variations in funding without exposing the Institute to undue financial risk. At 31 March 2014 unrestricted general funds showed a surplus of £3,500,000 (2013: surplus of £3,385,000). This is in line the policy of maintaining free reserves of between £3,000,000 and £4,000,000, in order to support financial solvency and manage uncertainty.

Designated funds

The use of the unrestricted designated fund as set out in note 15 comprise of sums set aside for specific purposes as decided by the Trustees to support ongoing non-operational activity being the continued development of the Pirbright site in support of the construction programme. This covers activity such as the occupation/licencing and equipping of the new buildings and comes to £13,827,000.

Restricted income funds

The Institute has been undertaking a significant building programme within the Pirbright site for which funding has been received from BBSRC. The funding of this programme is via grants which are held within the restricted fund and comes to a total of £240,608,000. This funding is solely and specifically granted for the purpose of the building programme hence the inclusion within the restricted fund.

Subsidiaries and related parties

The Institute's subsidiary undertaking, Avrigo Limited, last traded in 2003 and is currently dormant. Avrigo Limited was formed as part of the Institute's role in the 2001 UK Foot and Mouth outbreak and provided diagnostic and testing services to DEFRA.

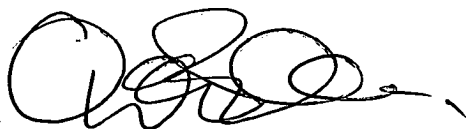
The Institute also has investments in two associate undertakings. Genecom Limited was incorporated in July 2004 as a company limited by guarantee. The company was established by way of grants from the Department of Innovation, Universities and Skills and the European Regional Development Fund and is a new business development vehicle. The primary aim of the company is to build capacity to develop more effective commercial exploitation platforms for the members' technologies, share experience and expertise. The Institute has equal membership in this company with Roslin Institute and the Moredun Research Institute.

Genomia Management Limited was formed on 16 April 2004 and is also a company limited by guarantee. The company was established by way of grants from the Department of Innovation, Universities and Skills and the European Regional Development Fund. The company manages the Genomia Fund the objective of which is to assist in the development of research output from the members into commercially realisable opportunities. The Institute has equal membership in this company with Roslin Institute, Moredun Research Institute, Rowett Research Institute and the Scottish Agricultural College.

Auditor

A resolution for the re-appointment of Grant Thornton UK LLP as auditor of the Institute is to be proposed at the forthcoming Annual General Meeting.

The Report of the Trustees incorporating the Strategic Report was approved and signed on behalf of the Trustee Directors on 20 November 2014.



Professor Q McKellar CBE
Trustee Director

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

We have audited the financial statements of The Pirbright Institute (Limited by Guarantee) for the year ended 31 March 2014 which comprise the Principal accounting policies, the Statement of Financial Activities, the Balance Sheet, the Cash Flow Statement and the related notes. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

This report is made solely to the charitable company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the charitable company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the charitable company and its members as a body, for our audit work, for this report, or for the opinions we have formed.

Respective responsibilities of Trustee Directors and auditor

As explained more fully in the Statement of Responsibilities of the Trustee Board set out on page 4, the trustees (who are also the directors of the charitable company for the purposes of company law) are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view.

Our responsibility is to audit and express an opinion on the financial statements in accordance with applicable law and International Standards on Auditing (UK and Ireland). Those standards require us to comply with the Auditing Practices Board's Ethical Standards for Auditors.

Scope of the audit of the financial statements

A description of the scope of an audit of financial statements is provided on the Financial Reporting Council's website at www.frc.org.uk/auditscopeukprivate.

Basis for qualified opinion on financial statements

Included in Tangible Fixed Assets shown on the Balance Sheet is an amount of £47,665,000 (2013: £58,238,000) in respect of Land and Buildings. Land and Buildings are subject to an accounting policy of revaluation. The last revaluation was carried out in January 2006. In our view this constitutes a departure from *FRS 15 Tangible Fixed Assets*, Land and Buildings should have a full valuation conducted by a qualified valuer at least every five years. The financial effects of the departure from *FRS 15 Tangible Fixed Assets* on the financial statements have not been determined. In forming our opinion on the financial statements, we have considered the adequacy of the disclosures made in the financial statements.

Qualified opinion on financial statements

In our opinion, except for the effects of the matter described in the Basis for Qualified Opinion paragraph, the financial statements:

- give a true and fair view of the state of the charitable company's affairs as at 31 March 2014 and of its incoming resources and application of resources, including its income and expenditure, for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Companies Act 2006.

**INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF THE PIRBRIGHT
INSTITUTE (LIMITED BY GUARANTEE)**

(CONTINUED)

Emphasis of Matter – contingent liability

In forming our opinion on the financial statements, we have considered the adequacy of the disclosures made in the Principal Accounting Policies concerning the Institute's ability to continue as a going concern, and the disclosures made in note 22a to the financial statements concerning a contingent liability at the Compton site for dilapidations and decommissioning costs.

It is currently unclear whether such a liability will be paid by the Institute, or whether the liability is accurately quantifiable. If the liability were to be payable by the Institute, adjustments would be required to the financial statements to provide for any amounts involved.

Although the amount is unknown, the potential magnitude of the liability if payable would be likely to have a significant impact on the financial statements and would not be able to be funded out of the Institute's available cash reserves.

Our opinion on the financial statements is not modified in respect of this matter.

Opinion on other matter prescribed by the Companies Act 2006

In our opinion the information given in the Report of the Trustees incorporating the Strategic Report for the financial year for which the financial statements are prepared is consistent with the financial statements.

Matters on which we are required to report by exception

We have nothing to report in respect of the following matters where the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept or returns adequate for our audit have not been received from branches not visited by us; or
- the financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of Trustee Directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

Grant Thornton UK LLP

**CAROL RUDGE
SENIOR STATUTORY AUDITOR
FOR AND ON BEHALF OF GRANT THORNTON UK LLP
STATUTORY AUDITOR, CHARTERED ACCOUNTANTS
LONDON**

20 November 2014

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

PRINCIPAL ACCOUNTING POLICIES

The following accounting policies have been applied consistently in dealing with items which are considered material in relation to the Institute's financial statements.

BASIS OF ACCOUNTING

The financial statements have been prepared under the historical cost convention, subject to the revaluation of investments and fixed assets which meet certain conditions. The financial statements meet with the requirements of the Companies Act 2006 and have been prepared in accordance with the Statement of Recommended Practice: (Accounting and Reporting by Charities) 2005.

The financial statements are prepared on a going concern basis. Financial forecasts have been prepared to the 31 March 2017 which is considered appropriate in the light of continuing financial support expected to be provided by BBSRC and also the current cash reserves of the Institute. There is however significant uncertainty as described in note 22a, relating to the contingent liability for dilapidations and decommissioning costs becoming payable in relation to the Compton site.

It is currently unclear whether the liability will be paid by the Institute or the landlord, or whether the liability is accurately quantifiable. If the liability were to be payable by the Institute, adjustments would be required to the financial statements to provide for any amounts involved.

Although the amount is unknown, the potential magnitude of the liability is likely to have a significant impact on the financial statements and would not be able to be funded out of the available cash reserves. Notwithstanding the uncertainty around this potential liability, the Trustees have concluded that it remains appropriate to prepare the financial statements on a going concern basis. This reflects their assessment that in the event that such a liability is payable by the Institute, it would take an extended period of time for such a liability to be agreed and settled. The Trustees also believe it highly unlikely that they would be required to fund the cost without more resources being provided by BBSRC.

GROUP FINANCIAL STATEMENTS

The Institute is exempt from the requirement to prepare consolidated financial statements by virtue of section 405(2) of the Companies Act 2006 as the result of its dormant subsidiary undertaking, Avrico Limited, is not material for the purposes of providing a true and fair view. Accordingly, these financial statements present information about the Institute as an individual entity and not its group.

The associated companies, as detailed in note 10, have also been excluded from the consolidation on the grounds of these being immaterial to the Institute's financial statements.

INCOMING RESOURCES

Income comprises unencumbered grants received from research councils; grant income from collaborative, commissioned and competitively awarded research projects; sales of produce from research farm operations; income from miscellaneous charitable activities; commercial and residential rents from the letting of Institute controlled property; and interest earned on the temporary investment of surplus funds.

Income is recognised when the Institute becomes legally entitled to the income and the amount can be quantified with reasonable accuracy. All core BBSRC grants are recognised as revenue in the year they are received. Grant income including research grants received in advance of conditions being met is deferred until those conditions are fully satisfied. Sales of produce are recognised on dispatch, rental and interest income is recognised based on the period to which it relates.

Capital grants are recognised in the statement of financial activities when entitlement passes, and once the criteria of certainty and measurement are met.

RESOURCES EXPENDED

Costs of charitable activities comprises costs incurred directly or in support of scientific research whether carried out in the Institute's own facilities or in other laboratories.

Costs of generating funds represents the costs associated with trading and raising income including the Institute's rental activities and tenant services and investments.

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

PRINCIPAL ACCOUNTING POLICIES

Governance costs include those costs associated with meeting the constitutional and statutory requirements of the Institute and include the audit fees, legal advice for trustees, annual report costs and costs linked to the strategic management of the Institute.

All costs are allocated between the expenditure categories of the Statement of Financial Activities on a basis designed to reflect the use of the resource. Costs relating to a particular activity are allocated directly. Support costs, representing the staffing and associated costs of finance, personnel and general administration in supporting the operations of the Institute, are apportioned on an appropriate basis (see note 4).

RESTRICTED INCOME FUNDS

Income received by way of grants, sponsorship, donation or legacy which is directed by the provider as to be applied for specific purposes is accounted for within restricted income. Awards applied within the terms dictated by the awarding authority on the acquisition or improvement of tangible fixed assets are also accounted for within restricted income funds in full. The balance of the restricted fixed asset fund is reduced by the depreciation or amortisation charges over the expected useful life of the asset. This treatment has been applied to reflect the assets being on land owned by a third party, therefore at the end of the lease they will revert to that third party (see further explanation below regarding the ownership of land and buildings). In addition, as detailed in note 22, there is a contingent liability to account to the Biotechnology and Biological Sciences Research Council for the net proceeds of disposal of fixed assets acquired with grant assistance and for recurrent grant in excess of the financing requirements.

DESIGNATED FUNDS

Unrestricted designated funds comprise sums set aside by the trustees for specific purposes including the acquisition and improvement of tangible fixed assets, the presentation of scientific conferences, and contributions towards capital to be replaced using the full economic costing policy adopted by the Institute.

UNRESTRICTED FUNDS

Income received which is not directed by the provider to be applied for specific purposes to an extent which exceeds the constraints of the Institute's constitution is accounted for within unrestricted general funds.

FIXED ASSETS

Fixed assets with a cost of £10,000 or more are capitalised and depreciated to their estimated residual values basis as set out below. Plant and machinery, fixtures and fittings with a cost of less than £10,000 are expensed in year of purchase.

Plant and machinery	5 years on a straight line basis
Fixtures, fittings, tools and equipment	5 years on a straight line basis

No depreciation is provided on assets in the course of construction.

The Institute includes in its financial statements leasehold land and buildings owned by third parties, that it occupies and enjoys through peppercorn leases, at their full value. The current lease for the Pirbright site ends in March 2015, and the lease for the Compton site ends in December 2015. Neither lease have as yet been renewed. The trustees consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. The only circumstance under which the Institute could be asked to vacate the site is due to a failure to deliver the required programme, which in the trustees view is highly unlikely.

The leasehold land and buildings are depreciated over their useful economic lives, due to the long term commitment from BBSRC beyond the current lease terms. At the Pirbright site, this ranges from 2 to 50 years, recognising the planned closure of certain buildings.

As a consequence of the decision to close the Compton site and transfer all the Institute's operations to Pirbright, the depreciation on the leasehold land and buildings at Compton has now been accelerated to write down the majority of the remaining leasehold land and buildings at that site to their anticipated net book value of £Nil at 31 March 2017 (being the current anticipated date of closure of the Compton site).

Revaluations of buildings were carried out by Powis Hughes and Associates as follows:

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

PRINCIPAL ACCOUNTING POLICIES

Compton site - January 2006, Pirbright site - January 2006.

These valuations were carried out on the basis of depreciated replacement cost/value in use. External valuations are carried out every five years with interim informal valuations being carried out after three years. However the trustees consider that the significant and on-going improvements to the Pirbright site, and the closure of the Compton site, mean that it would not be feasible to obtain up to date valuations. As such, no valuations have been obtained since January 2006.

LEASED ASSETS

Rentals payable under operating leases are charged to the income and expenditure account on a straight line basis over the lease term.

Assets acquired under finance leases are capitalised as tangible fixed assets and depreciated over their useful lives. Finance charges and interest are taken to the income and expenditure account in proportion to the remaining balance of capital repayments or net obligations outstanding.

INVESTMENTS

Quoted investments are valued at market value. Investments in subsidiary undertakings are carried at the lower of cost and net realisable value. The policy of the Institute is to write down investments where a permanent diminution in value is deemed to have occurred. Fair value movements are reflected in the Statement of Financial Activities.

STOCK

Farm and laboratory supplies are valued at the lower of cost and net realisable value.

FOREIGN CURRENCY TRANSLATION

Monetary assets and liabilities denominated in foreign currencies are translated into sterling at the rates of exchange ruling at the balance sheet date. Transactions in foreign currencies are recorded at the rate ruling at the date of the transaction.

PENSION COSTS

The cost of providing pension and related benefits is charged to the statement of financial activities. The scheme is a defined benefit scheme as explained in note 8 but there are no separately identifiable assets and the actuarial cost to the Institute is not known. Consequently it is not possible to supply the information referred to in Financial Reporting Standard 17 and the Institute has accounted for the scheme as though it were a defined contribution scheme.

TAXATION

The Pirbright Institute is a registered charity within the meaning of the UK Taxes Acts and is, therefore, eligible to claim exemptions to income tax and capital gains tax.

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

STATEMENT OF FINANCIAL ACTIVITIES (INCORPORATING INCOME AND EXPENDITURE ACCOUNT)

For the year ended 31 March 2014

	Note	Unrestricted funds £'000	Restricted funds £'000	2014 Total Funds £'000	2013 Total Funds £'000
Incoming resources					
<i>Incoming resources from generated funds</i>	1				
<i>Voluntary income</i>					
Core strategic grant		11,006	-	11,006	11,321
<i>Activities for generating funds</i>					
Rental income and tenant services		122	-	122	106
Investment income		307	-	307	627
<i>Incoming resources from charitable activities</i>	2				
Grants and contracts		19,481	26,555	46,036	66,836
Research farm operation		1,597	-	1,597	1,626
Rental income and tenant services		883	-	883	838
Other charitable income		1,602	-	1,602	1,640
Total incoming resources		34,998	26,555	61,553	82,994
Resources expended					
<i>Costs of generating funds</i>	3				
Rental income and tenant services		258	421	679	739
Investment management costs		9	-	9	22
<i>Charitable activities</i>	3				
Scientific research		27,707	17,564	45,271	39,931
Research farm operation		2,367	890	3,257	2,760
Rental income and tenant services		886	1,399	2,285	2,679
Other charitable activities		482	64	546	536
<i>Governance costs</i>	5	458	-	458	371
Total resources expended		32,167	20,338	52,505	47,038
Net incoming/(outgoing) resources before transfers		2,831	6,217	9,048	35,956
Transfers	15	659	(659)	-	-
Net incoming resources/net income/expenditure for the year		3,490	5,558	9,048	35,956
Other recognised gains and losses					
(Loss)/Gain on revaluation of fixed asset investments for charity's use	10	(17)	-	(17)	24
Net movement in funds		3,473	5,558	9,031	35,980
Balances brought forward		13,854	245,060	258,914	222,934
Balances carried forward	15	17,327	250,618	267,945	258,914

All incoming resources and resources expended derive from continuing activities.

The accompanying accounting policies and notes form an integral part of these financial statements

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

BALANCE SHEET AT 31 MARCH 2014

Company number 559784

	Note	2014 £'000	2013 £'000
Fixed assets			
Tangible assets	9	231,593	221,911
Investments	10	96	113
		<u>231,689</u>	<u>222,024</u>
Current assets			
Stocks	11	1,474	1,286
Debtors	12	9,013	9,082
Cash at bank and in hand		39,946	38,651
		<u>50,433</u>	<u>49,019</u>
Creditors: amounts falling due within one year	13	<u>(14,177)</u>	<u>(12,129)</u>
Net current assets		<u>36,256</u>	<u>36,890</u>
Total assets less current liabilities		<u>267,945</u>	<u>258,914</u>
Net assets		<u>267,945</u>	<u>258,914</u>
Financed by			
Unrestricted funds	15	17,327	13,854
Restricted			
General funds	15	240,608	237,112
Other restricted reserve	15	10,010	7,948
Total funds	16	<u>267,945</u>	<u>258,914</u>

The Institute includes in its financial statements leasehold land and buildings owned by third parties, these are detailed further in note 9.

These financial statements were approved by the Board of Trustees and authorised for issue on 20 November 2014.



Professor Q McKellar CBE

Trustee Director



Mr M Samuel

Trustee Director

The accompanying accounting policies and notes form an integral part of these financial statements.

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

CASH FLOW STATEMENT

For the year ended 31 March 2014

	Note	2014 £'000	2013 £'000
Net cash outflow from operating activities	19	(3,146)	(212)
Return on investments and servicing of finance			
Interest received		307	627
Net cash inflow for returns on investment and servicing of finance		307	627
Capital expenditure			
Payments to acquire tangible fixed assets		(22,422)	(50,107)
Capital grants		26,555	49,144
Proceeds from sale of tangible fixed assets		1	3
Net cash inflow/(outflow) for capital expenditure		4,134	(960)
Increase/(decrease) in cash in the year	20,21	1,295	(545)

The accompanying accounting policies and notes form an integral part of these financial statements.

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

NOTES TO THE TRUSTEES' REPORT AND FINANCIAL STATEMENTS

For the year ended 31 March 2014

1 INCOMING RESOURCES FROM GENERATED FUNDS

	2014 £'000	2013 £'000
<i>Voluntary income</i>		
BBSRC – core strategic grant	11,006	11,321
<i>Activities for generating funds</i>		
Rental income and services to tenants	122	106
Investment income - bank interest receivable	307	627
	<u>11,435</u>	<u>12,054</u>

2 INCOMING RESOURCES FROM CHARITABLE ACTIVITIES

	2014 £'000	2013 £'000
Grant income		
BBSRC – other grants	32,325	54,245
Research Grants	13,711	12,591
	<u>46,036</u>	<u>66,836</u>
Research farm operation	1,597	1,626
Rental income and services to tenants	883	838
Other charitable activities	1,602	1,640
	<u>50,118</u>	<u>70,940</u>

The analysis by region is set out below:

	2014 £'000	2013 £'000
United Kingdom	47,343	69,826
Europe	1,613	613
North America	68	80
Others	1,094	421
	<u>50,118</u>	<u>70,940</u>

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)**NOTES TO THE TRUSTEES' REPORT AND FINANCIAL STATEMENTS**

For the year ended 31 March 2014

INCOMING RESOURCES FROM CHARITABLE ACTIVITIES (CONTINUED)**Analysis of grant income**

	Unrestricted £'000	Restricted £'000	2014 Total £'000	2013 Total £'000
BBSRC				
- Competitive Project Grant – research grants	3,693	-	3,693	4,101
- Other grants	5,770	26,555	32,325	54,245
Total BBSRC	9,463	26,555	36,018	58,346
DEFRA "Umbrella" contract commission projects	4,223	-	4,223	4,476
DEFRA Surveillance	1,787	-	1,787	1,895
Other government departments, public sector	159	-	159	103
European Union	1,613	-	1,613	613
Industry, levy boards	241	-	241	320
Trusts, foundations, charities	601	-	601	476
Other research grant income	1,394	-	1,394	607
Total incoming resources – grants including research	19,481	26,555	46,036	66,836

Ancillary trades and activities

Other charitable income consists of trades and activities which are ancillary to the charitable activities of the Institute:

	Unrestricted £'000	Restricted £'000	Total 2014 £'000	Total 2013 £'000
Royalties	159	-	159	245
Diagnostic kits	320	-	320	740
Other	1,123	-	1,123	655
Total	1,602	-	1,602	1,640

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

NOTES TO THE TRUSTEES' REPORT AND FINANCIAL STATEMENTS

For the year ended 31 March 2014

3 ANALYSIS OF RESOURCES EXPENDED

	Staff costs £'000	Other direct costs £'000	Allocated support costs £'000	Total 2014 £'000	Total 2013 £'000
Unrestricted funds					
<i>Costs of generating funds</i>					
Rental income and tenant services	-	-	258	258	348
Investment management costs	-	3	6	9	22
<i>Charitable expenditure</i>					
Grants and contracts for scientific research	10,648	6,720	10,339	27,707	28,389
Research farm operation	234	1,859	274	2,367	2,209
Rental income and tenant services	-	(25)	911	886	1,610
Other charitable activities	-	320	162	482	471
<i>Governance costs</i>	127	176	155	458	371
Total unrestricted resources expended	11,009	9,053	12,105	32,167	33,420
Restricted funds					
<i>Cost of generating funds</i>	-	-	421	421	391
<i>Charitable expenditure</i>	-	-	19,917	19,917	13,227
Total restricted resources expended	-	-	20,338	20,338	13,618
Total resources expended	11,009	9,053	32,443	52,505	47,038
<i>Total resources expended – 2013</i>	<i>9,674</i>	<i>8,204</i>	<i>29,160</i>	<i>47,038</i>	

Included in allocated support costs are normal staff costs of £6,016,746 (2013: £4,757,183).

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

NOTES TO THE TRUSTEES' REPORT AND FINANCIAL STATEMENTS

For the year ended 31 March 2014

4 ANALYSIS OF SUPPORT COSTS

	Rental income and tenant services £'000	Investment management costs £'000	Grants and contracts for scientific research £'000	Research farm operation £'000	Science rental income and tenant services £'000	Staff restaurant and nursery £'000	Other charitable activities £'000	Governance £'000	Total 2014 £'000	Total 2013 £'000	Basis of allocation
Unrestricted											
Premises	169	-	7,269	84	844	64	-	-	8,430	10,659	% of floor area
Financial costs	17	6	379	46	29	17	17	69	580	385	time spent
Management	2	-	41	2	1	1	-	2	49	1,559	time spent
Human resources	55	-	407	22	-	17	-	56	557	549	time spent
Information technology	9	-	1,796	78	20	10	20	-	1,933	1,839	time spent
Purchasing and procurement	6	-	447	42	17	11	5	28	556	551	time spent
	<u>258</u>	<u>6</u>	<u>10,339</u>	<u>274</u>	<u>911</u>	<u>120</u>	<u>42</u>	<u>155</u>	<u>12,105</u>	<u>15,542</u>	
Restricted											
Depreciation / (profit)/loss on disposal of fixed assets	382	-	10,766	510	1,019	64	-	-	12,741	12,938	
Repairs / compliance	39	-	6,798	380	380	-	-	-	7,597	680	
	<u>421</u>	<u>-</u>	<u>17,564</u>	<u>890</u>	<u>1,399</u>	<u>64</u>	<u>-</u>	<u>-</u>	<u>20,338</u>	<u>13,618</u>	
	<u>679</u>	<u>6</u>	<u>27,903</u>	<u>1,164</u>	<u>2,310</u>	<u>184</u>	<u>42</u>	<u>155</u>	<u>32,443</u>	<u>29,160</u>	

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

NOTES TO THE TRUSTEES' REPORT AND FINANCIAL STATEMENTS

For the year ended 31 March 2014

5 ANALYSIS OF GOVERNANCE COSTS

	2014 £'000	2013 £'000
Legal and professional	107	2
External audit fees	68	51
Company secretarial costs	127	124
Apportionment of staff and support	156	194
	<u>458</u>	<u>371</u>

6 OPERATING COSTS

	2014 £'000	2013 £'000
Operating costs stated after charging:		
Auditor's remuneration		
- audit services	60	51
- taxation advisory services	8	-
Depreciation	12,744	12,907
(Profit)/Loss on disposal of fixed assets	(3)	31
Hire of plant and machinery	2	43
Rental of land and buildings	277	279
	<u></u>	<u></u>

Operating costs are stated net of laboratory supplies carried forward in stock amounting to £82,998 (2013: £107,466)

7 REMUNERATION OF THE MEMBERS OF THE TRUSTEE BOARD

None (2013: none) of the members of the Trustee Board received any remuneration from the Institute during the year. Five members (2013: one member) of the Trustee Board had travel expenses of £4,116 (2013: £3,459) reimbursed during the year and one member (2013: one member) received consultancy fees of £5,000 (2013: £5,000), as permitted under the Institute's articles.

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

NOTES TO THE TRUSTEES' REPORT AND FINANCIAL STATEMENTS

For the year ended 31 March 2014

8 STAFF NUMBERS AND COSTS

The average number of persons employed by the Institute on a full time equivalent basis (including members of the Governing Council) during the year, analysed by category, was as follows:

	Number of employees 2014	2013
Office, management and estate support	142	127
Research farm	5	8
Scientific	229	220
	<hr/>	<hr/>
	376	355
	<hr/>	<hr/>

The aggregate payroll costs of these persons were as follows:

	2014 £'000	2013 £'000
Wages and salaries	13,480	12,035
Social security costs	1,052	867
Other pension costs	3,251	2,918
	<hr/>	<hr/>
	17,783	15,820
	<hr/>	<hr/>

Employees of the council are members of the Research Councils' Pension Schemes, which are funded principally through employer and employee contributions. The pension schemes are by analogy to the Principal Civil Service Pension Scheme (PCSPS), except that while the schemes that are defined benefit schemes and provide retirement and related benefits on final emoluments, redundancy and capability ill health are administered and funded by the council. The pension schemes are administered by the Research Councils' Joint Superannuation Services and the schemes' finances are administered by the BBSRC. It is an unfunded scheme, and there are no separately identifiable assets and the actuarial cost to the Institute is not known. Consequently it is not possible to supply the information referred to in Financial Reporting Standard 17 and the Institute has accounted for the scheme as though it were a defined contribution scheme.

The council pays employers' contributions, at a percentage of scheme members' pensionable pay and emoluments assessed by the Government Actuary's Department on a periodical basis. The rate for the year was 26.0%, which was established following GAD's most recent assessment. The pension costs represent contributions payable by the Institute to the scheme and amount to £3,251,182 (2013: £2,918,382).

The number of staff with emoluments greater than £60,000 was:

	2014 Number	2013 Number
£60,000 - £69,999	7	7
£70,000 - £79,999	2	2
£80,000 - £89,999	6	2
£110,000 - £119,999	1	1

The number of staff earning over £60,000 for whom retirement benefits are accruing under defined benefit schemes amounted to sixteen (2013: twelve) and the amounts paid in the year were £309,396 (2013: £242,286).

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

NOTES TO THE TRUSTEES' REPORT AND FINANCIAL STATEMENTS

For the year ended 31 March 2014

9 TANGIBLE FIXED ASSETS

	Land and buildings £'000	Plant and machinery £'000	Fixtures, fittings, tools and equipment £'000	Payments on account and assets in course of construction £'000	Total £'000
Group and charity					
Cost/revaluation					
At 1 April 2013	122,585	8,719	1,283	159,679	292,266
Additions	630	4,386	-	17,406	22,422
Disposals	(20)	(8)	-	-	(28)
At 31 March 2014	123,195	13,097	1,283	177,085	314,660
Depreciation					
At 1 April 2013	64,347	4,725	1,283	-	70,355
Charge for year historic	6,122	1,537	-	-	7,659
Charge for year revaluation	5,085	-	-	-	5,085
Disposals historic	(24)	(8)	-	-	(32)
At 31 March 2014	75,530	6,254	1,283	-	83,067
Net book value at 31 March 2014	47,665	6,843	-	177,085	231,593
Net book value at 31 March 2013	58,238	3,994	-	159,679	221,911
Buildings revaluations comprise:					£'000
Compton (2006)					50,305
Pirbright (2006)					38,719
Revalued amount					89,024

All of the tangible assets of the Charity are used for charitable purposes.

The Institute includes in its financial statements leasehold land and buildings owned by third parties, that it occupies and enjoys through peppercorn leases, at their full value. The current lease for the Pirbright site ends in March 2015, and the lease for the Compton site ends in December 2015. Neither lease have as yet been renewed. The trustees consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. The only circumstance under which the Institute could be asked to vacate the site is due to a failure to deliver the required programme, which in the trustees view is highly unlikely.

The Charity's land and buildings were revalued by Powis Hughes, external Chartered Surveyors, as at January 2006 on the basis of depreciated replacement cost.

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)**NOTES TO THE TRUSTEES' REPORT AND FINANCIAL STATEMENTS**

For the year ended 31 March 2014

TANGIBLE FIXED ASSETS (CONTINUED)

The net book value of land and buildings comprises:

	2014 £'000	2013 £'000
Short leasehold land	12,005	12,636
Short leasehold buildings (subject to formal lease)	35,660	45,156
	<u>47,665</u>	<u>57,792</u>

Details of leased assets other than land and buildings included within fixed assets are:

Plant and machinery

Cost brought forward at 1 April 2013	36	36
Disposals	-	-
Accumulated depreciation brought forward at 1 April 2013	(36)	(36)
Depreciation on disposals	-	-
	<u>-</u>	<u>-</u>
Net book value at 31 March 2014	<u>-</u>	<u>-</u>

	2014 £'000	2013 £'000
Net book value of fixed assets used for direct charitable purposes	231,593	221,911

10 INVESTMENTS

	2014 £'000	2013 £'000
UK listed investments held as fixed assets		
Market value at 1 April 2013	113	89
Unrealised profit	(17)	24
	<u>96</u>	<u>113</u>
Market value at 31 March 2014	<u>96</u>	<u>113</u>
Represented by:		
Genus plc	39	62
Dairy Crest	57	51
	<u>96</u>	<u>113</u>
Total	<u>96</u>	<u>113</u>

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

NOTES TO THE TRUSTEES' REPORT AND FINANCIAL STATEMENTS

For the year ended 31 March 2014

INVESTMENTS (CONTINUED)

Investment in subsidiary undertaking

Avrico Limited, which is incorporated in England and Wales, previously undertook Foot and Mouth disease testing on behalf of the Institute, was dormant during the current and previous year. The Institute owns the entire share capital of 100 ordinary shares of £1 each.

The assets and liabilities of the subsidiary were:

	2014 £'000	2013 £'000
Current assets	-	-
Creditors: amounts falling due within one year	(8)	(8)
Net liabilities	(8)	(8)
Aggregate share capital and reserves	(8)	(8)

The Institute has provided for the deficit shown by the subsidiary undertaking by writing off the amount owed to it by Avrico Limited.

Investment in associated undertakings

Genecom Limited was incorporated in July 2004 as a company limited by guarantee. The company was established by way of grants from the Department of Innovation, Universities and Skills and the European Regional Development Fund and is a new business development vehicle. The primary aim of the company is to build capacity to develop more effective commercial exploitation platforms for the members' technologies, share experience and expertise. The Institute has equal membership in this company with Roslin Institute and the Moredun Research Institute. The company's turnover for the year ended 31 March 2014 was £Nil (2013: £265,000) and its net assets as at 31 March 2014 were £66,000 (2013: £67,000).

Genomia Management Limited was formed on 16 April 2004 and is also a company limited by guarantee. The company was established by way of grants from the Department of Innovation, Universities and Skills and the European Regional Development Fund. The company manages the Genomia Fund the objective of which is to assist in the development of research output from the members into commercially realisable opportunities. The Institute has equal membership in this company with Roslin Institute, Moredun Research Institute, Rowett Research Institute and the Scottish Agricultural College. The company's turnover for the year ended 31 March 2014 was £268,000 (2013: £643,000) and its net assets as at 31 March 2014 were £Nil (2013: £Nil).

11 STOCKS

	2014 £'000	2013 £'000
Farm	1,391	1,179
Laboratory supplies	83	107
	1,474	1,286

The Institute's stock consists of farm stocks used for non-research purposes and stock of laboratory supplies for research purposes.

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)**NOTES TO THE TRUSTEES' REPORT AND FINANCIAL STATEMENTS**

For the year ended 31 March 2014

12 DEBTORS

	2014	2013
	£'000	£'000
Trade debtors	614	480
Other debtors	5,585	6,308
Prepayments	477	1,005
Accrued income	2,337	1,289
	<u>9,013</u>	<u>9,082</u>

13 CREDITORS: AMOUNTS FALLING DUE WITHIN ONE YEAR

	2014	2013
	£'000	£'000
Trade creditors	2,584	1,215
Taxation and social security	348	486
Other creditors	829	1,431
Accruals	6,223	4,458
Deferred income	4,193	4,539
	<u>14,177</u>	<u>12,129</u>

14 RECONCILIATION OF MOVEMENT IN ACCRUED AND DEFERRED INCOME

	2014	2013
	£'000	£'000
Accrued income	2,337	1,289
Deferred income	(4,193)	(4,539)
	<u>(1,856)</u>	<u>(3,250)</u>
Net deferred research grant income at the beginning of the year	(3,250)	(4,305)
Research grant income received during the year	(12,317)	(11,536)
Research grant money released to SOFA during the year	13,711	12,591
	<u>(1,856)</u>	<u>(3,250)</u>

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

NOTES TO THE TRUSTEES' REPORT AND FINANCIAL STATEMENTS

For the year ended 31 March 2014

15 FUNDS

	Balance 1 April 2013 £'000	Net incoming/ (outgoing) resources £'000	Transfer between funds £'000	Balance 31 March 2014 £'000
Unrestricted funds:				
General	3,385	(544)	659	3,500
Designated	10,469	3,358	-	13,827
Restricted income funds:				
Fixed Asset Fund	237,112	7,130	(3,634)	240,608
Other restricted funds:				
Repairs and Maintenance	6,417	(814)	(5,603)	-
Fixed Asset Project Support Costs	-	2,300	2,880	5,180
Equipment	-	-	3,000	3,000
BCIC Projects	-	(2,841)	3,292	451
Hostel	1,471	-	(155)	1,316
Redundancy	-	436	(436)	-
Other	60	6	(3)	63
	<u>258,914</u>	<u>9,031</u>	<u>-</u>	<u>267,945</u>

Unrestricted designated funds

Unrestricted designated funds comprise sums set aside for specific purposes including the acquisition and improvement of tangible fixed assets, the presentation of scientific conferences, and contributions towards capital to be replaced using the fully economic costing policy adopted by the Institute.

Restricted income funds

Restricted income funds comprise grants received from funders specifically to be applied in the acquisition or improvement of tangible fixed assets or otherwise applied for such purposes as specified by the grants provided.

	2014 £'000	2013 £'000
Fixed Asset Fund		
Balance brought forward	237,112	202,163
Grants received	19,871	47,887
Depreciation / profit/(loss) on disposal and fixed assets (note 6)	(12,741)	(12,938)
Transfers	(3,634)	-
Balance carried forward	<u>240,608</u>	<u>237,112</u>

The Fixed Asset Fund is not an endowment fund, but represents funding received, principally from BBSRC, for the past and future acquisition of tangible fixed assets. These assets are built on land that is not owned by The Pirbright Institute. The capital fund has been set up to assist in identifying those funds that are not free funds and it represents the net book value of tangible fixed assets held by the charity and amounts received for capital but not yet spent.

The unexpended balance of unrestricted-designated funds and restricted funds is invested in temporary deposits and appears in the balance sheet under current assets.

Other restricted funds

Repairs and Maintenance grants received principally from BBSRC specifically to be applied in the improvement of tangible fixed assets and maintenance of facilities.

Fixed Asset Project Support Cost grants have been received from BBSRC to provide funding towards support costs and overrun costs relating to the DPI capital projects.

The Equipment fund contains funding received from BBSRC for the purchase of equipment.

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

NOTES TO THE TRUSTEES' REPORT AND FINANCIAL STATEMENTS

For the year ended 31 March 2014

BCIC project income was received specifically for use on the BCIC projects.

The Hostel funds were received from BBSRC to cover the cost of the rents payable at the Compton site.

Redundancy funds have been specifically received from BBSRC to fund the redundancies in the year.

Transfers between funds

	Unrestricted general funds £'000	Unrestricted designated funds £'000	Restricted funds £'000
Transfer of funds to general reserves	659	-	(659)

The transfers during the year are as follows:

- A transfer of £2,880k has been to appropriately reflect an 'Extension of Time' grant received from BBSRC in 2011 in the Fixed Asset Project Support Costs fund. This funding was provided to cover the costs of any time delays in the DP1 project.
- Transfers of £3,000k and £3,292k respectively were made to ensure that the specific funding for Equipment and BCIS Projects are reflected in separate funds rather than together as part of the larger Repairs and Maintenance fund.
- In 2012, £750k was received for A Block capital works. This work has however been completed using general reserves, therefore the funding has been transferred to match the expenditure.
- Other minor transfers relating to the Fixed Asset fund and the Repairs and Maintenance fund to appropriately reflect the remaining balances in each fund.
- The Redundancy restricted fund transfer of £436k has been made to ensure that expenditure incurred for redundancies, for which restricted income has been received, is appropriately matched.
- The Hostel restricted fund transfer of £155k has been made to set rents paid in the year against the restricted grant received for this purpose.
- Other restricted fund transfers of £3k have been made to ensure expenditure relating to the NIDO Course fund is appropriately allocated.

16 ANALYSIS OF NET ASSETS BETWEEN FUNDS

	Fixed assets £'000	Net current assets £'000	Total £'000
Unrestricted funds	96	17,231	17,327
Restricted funds			
Capital fund	221,580	9,015	230,595
Revaluation reserve	10,013	-	10,013
Other restricted funds	-	10,010	10,010
	231,689	36,256	267,945

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

NOTES TO THE TRUSTEES' REPORT AND FINANCIAL STATEMENTS

For the year ended 31 March 2014

17 BUILDINGS REVALUATION - UNREALISED GAIN

The reserve resulting from the revaluations carried out between 2000 and 2006 has been depreciated assuming a life of 20 years. The balance of the reserve as at 31 March 2014 is as follows:

	£'000
Revaluation reserve brought forward	15,095
Depreciation charged (note 9)	(5,085)
Disposals	3
	<hr/>
Revaluation reserve carried forward	10,013

The Compton and Pirbright premises of the Institute's leasehold property were revalued during January 2006 by Powis Hughes and Associates Chartered Surveyors at an estimated depreciated replacement cost of £89,024,000. This revaluation did not include the recently completed isolation unit in Pirbright valued at a further £6,733,000.

The 2007 depreciation charge included £250,000 of impairment charge relating to all buildings in Scotland that were transferred to another BBSRC funded Institute on 31 March 2007.

On an historical cost basis, the leasehold property would have been included at an original cost of £87,090,000 (2013: £86,480,000) and aggregate depreciation of £49,914,000 (2013: £43,816,000).

18 COMMITMENTS

(a) Capital commitments at the end of the financial year for which no provision has been made:

	2014 £'000	2013 £'000
Authorised but not contracted for	24,646	4,390

The capital commitments of £24,646,000 (2013: £4,390,000) will be significantly funded by the BBSRC.

(b) Operating lease commitments

The Institute is committed to the following annual charges in respect of:

	2014 £'000	2013 £'000
Land and buildings		
Expiring after five years	266	264
	<hr/>	<hr/>
Plant and Machinery		
Expiring within five years	92	69

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

NOTES TO THE TRUSTEES' REPORT AND FINANCIAL STATEMENTS

For the year ended 31 March 2014

19 RECONCILIATION OF CHANGE IN RESOURCE TO NET CASH OUTFLOW FROM OPERATING ACTIVITIES

	2014 £'000	2013 £'000
Net incoming resources	9,046	35,956
Interest receivable	(307)	(627)
Depreciation charged	12,744	12,907
(Profit)/Loss on disposal of fixed assets	(3)	31
Capital grants received	(26,555)	(49,144)
Increase in stocks	(188)	(86)
Decrease/(increase) in debtors	69	5,384
Increase/(Decrease) in creditors	2,048	(4,633)
Net cash outflow from operating activities	<u>(3,146)</u>	<u>(212)</u>

20 RECONCILIATION OF NET CASH FLOW TO MOVEMENT IN NET FUNDS

	2014 £'000	2013 £'000
Increase/(Decrease) in cash in year	<u>1,295</u>	<u>(545)</u>
Movement in net funds in year	1,295	(545)
Net funds at 1 April 2013	<u>38,651</u>	<u>39,196</u>
Net funds at 31 March 2014	<u>39,946</u>	<u>38,651</u>

21 ANALYSIS OF NET FUNDS

	At 1 April 2013 £'000	Cash flow £'000	At 31 March 2014 £'000
Cash at bank and in hand	38,651	1,295	39,946
	<u>38,651</u>	<u>1,295</u>	<u>39,946</u>

THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

NOTES TO THE TRUSTEES' REPORT AND FINANCIAL STATEMENTS

For the year ended 31 March 2014

22 CONTINGENT LIABILITIES

- a. There is a contingent liability for the Institute to return leasehold land and buildings to their original condition at the end of the leases. The trustees consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. The only circumstance under which the Institute could be asked to vacate the site is due to a failure to deliver the required programme, which in the trustees view is highly unlikely. As a result, in relation to the Pirbright site, it is deemed improbable by the trustees that a transfer of economic benefit will be required to settle any obligation for dilapidations or decommissioning costs, therefore no provision has been made. It is not considered practicable to quantify the potential liability at the balance sheet date.

As a consequence of the decision to close the Compton site and transfer all the Institute's operations to Pirbright, the potential for significant dilapidations and decommissioning costs becoming payable in relation to that site is more imminent. The current lease ends in December 2015. The trustees have to date been unable to obtain assurance from BBSRC regarding whether these costs will ultimately be paid by the Institute, and fundamentally whether they are quantifiable at this stage. As such, at the balance sheet date the Institute has not been able to determine whether such a provision is required and if it is, for what quantity.

- b. There is also a contingent liability to account to the Biotechnology and Biological Sciences Research Council for the net proceeds of disposal of fixed assets acquired with grant assistance and for recurrent grant in excess of the financing requirements. No such liabilities existed at either 31 March 2014 or 31 March 2013.
- c. Certain buildings have been zero rated for Value Added Tax. There is a contingent liability to HMRC should the use of these buildings change within 10 years. No such liabilities existed at either 31 March 2014 or 31 March 2013.

23 RELATED PARTY TRANSACTIONS

Biotechnology and Biological Science Research Council (BBSRC)

The BBSRC provides substantial funding to the Institute. The Pirbright Institute is affiliated with the BBSRC along with seven other Institutes. Details of grants received from BBSRC are detailed in notes 1 and 2. During the year, the BBSRC charged the Institute £188 (2013: £2,423) for Computing Centre costs and £83,718 (2013: £111,739) for other costs.



THE 

Pirbright

INSTITUTE

PREVENTING AND CONTROLLING VIRAL DISEASES

**ANNUAL REPORT
AND ACCOUNTS
FOR THE YEAR ENDED
31 MARCH 2020**

REGISTERED CHARITY NUMBER: 228824

REGISTERED COMPANY NUMBER: 00559784

PIRBRIGHT: HIGHLIGHTS

1 Significant contribution by Pirbright to the UK's COVID-19 diagnostic and surveillance effort through the loan of our specialist equipment and by the volunteering of our highly trained staff

2 Working closely with the University of Oxford, Jenner Institute (a partnership between the University and Pirbright), and Imperial College London to test three different vaccine candidates in pigs, which have similar immune responses to humans

3 Despite the difficulties brought about by COVID-19, Pirbright has continued its research

4 A new strategic bioimaging collaboration between Pirbright and the Electron Bioimaging Centre at Diamond Light Source which is enabling our scientists to study viral diseases in greater detail

5 Receipt of a US\$5.5 million grant from the Bill & Melinda Gates Foundation to establish the Pirbright Livestock Antibody Hub, aimed at improving animal and human health globally as part of the One Health Agenda

6 Design of a new effective and affordable vaccine for foot-and-mouth disease, licensed to a global animal health company

7 Significant progress in the development of a vital vaccine for African swine fever, a devastating disease that has resulted in the reduction of China's pig stock by nearly 40 percent

8 Further progress in the development and construction of Pirbright's new research facilities

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The Pirbright Institute
www.pirbright.ac.uk

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 The Pirbright Institute

Cover image:
Pirbright scientist
working on COVID-19
in containment level 3
laboratories in sealed
cabinets.
Photography: © Ed Brydon

Inside front:
BBSRC National Virology
(right) and Vaccinology
Centres at Pirbright.

Photography:
© James Brittain 2020

FOREWORD BY THE CHAIR OF TRUSTEES



As Chair of Trustees of The Pirbright Institute, I am delighted to present our Trustees' Report incorporating the Strategic Report for the Year ending 31 March 2020.

Reflecting back on this year it is impossible not to contrast the pre- and post COVID-19 pandemic months. The emergence of the novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in late December 2019 has been an event that has dramatically changed people's lives in so many ways, and one that history will not forget.

It has also been a defining moment for the global research community as scientists around the world work together to understand more about SARS-CoV-2 and effective ways to both prevent and control it. Never before has research been highlighted in the non-scientific community so clearly as a crucial element in the control of disease globally, and the critical role scientists play in supporting government and public health in disease diagnosis, control and prevention.

Throughout my career working in the field of viral infection, including flu pandemics, I have never experienced anything quite like COVID-19, which is causing great harm to world economies and human health.

I am particularly proud of the contribution Pirbright has made to the UK's COVID-19 diagnostics and surveillance efforts by mobilising our high throughput diagnostic equipment and volunteering our highly-trained staff at centres around the country.

I am convinced that continued investment in disease research will result in an increased understanding and ability to combat this virus and other novel diseases when they appear.

Despite the recent challenges, the Institute has had a very successful 2019-2020. Like many other research organisations, COVID-19 has impacted on our international collaborations and some research projects, particularly since lock-down. We continue to operate essential science which has mitigated the financial impact of COVID-19 on the Institute.

Pirbright has been quick to offer the UK the benefit of its expertise in the prevention and control of viral diseases of livestock and has been successful in achieving grants for future coronavirus research in animals, including SARS-CoV-2. I look forward to seeing the results of this research in the coming months.

Pirbright has had a successful coronavirus research programme for many years, primarily aimed at understanding and preventing two diseases: infectious bronchitis virus, a coronavirus that affects poultry, and a deltacoronavirus of pigs. We are using our expertise and unique facilities to support research efforts to control this pandemic and future emerging viral diseases, particularly in research and vaccine development.

The Institute continues its science programmes into other important livestock diseases with global impact such as foot-and-mouth disease, African swine fever, lumpy skin disease, and influenza.

We have made substantial progress in the development of vaccines against many of these diseases and continue to increase our reputation worldwide as a centre of excellence in research and diagnostics of livestock viruses as well as viral zoonoses. This is evidenced by the continued investment in Pirbright research as income has increased in 2019-2020, including a £4.2 million (US\$5.5 million) grant from the Bill & Melinda Gates Foundation to establish the Pirbright Livestock Antibody Hub and £1.5 million from Defra to investigate alternative ways to detect foot-and-mouth disease virus on farms.

Strategic capital investment from the Biotechnology and Biological Sciences Research Council part of UK Research and Innovation (BBSRC UKRI) has enabled Pirbright to move forward on the second phase of its development programme and I am delighted to report the new Houghton Facility, a specified pathogen free poultry laboratory, is now complete, enabling future research into diseases of poultry including avian flu, infectious bursal disease and Marek's disease.

Work on the new high containment large animal facility (The Brooksby Building) continues at pace and is on track for completion in 2022, cementing Pirbright's position as the UK's, and indeed one of the world's, leading research facilities in highly infectious diseases of livestock.

All of these achievements are only possible because of the high calibre of research and support staff we have at Pirbright, and this has been brought into focus even more this year as the Institute continues to deliver research outputs with global impact, against an increasingly challenging backdrop, including COVID-19 and Brexit preparations.

The Trustee Board has been especially impressed by the flexibility and rapid response of Pirbright staff to the COVID-19 pandemic and is delighted with the professionalism demonstrated by all who work and study at the Institute and would like to thank everyone for their enormous efforts and continued commitment in these very difficult times.

Professor John Stephenson
Chair of the Trustee Board
The Pirbright Institute

"The continuing emergence of new viral diseases, such as COVID-19, demands robust research and collective efforts that can respond to rapidly changing outbreak scenarios."

A FUTURE FREE FROM DISEASE

Last year I opened my Director's Welcome with the words "Emerging diseases, particularly viruses that have the potential to cause pandemics in animals and humans, are a growing concern".

A new coronavirus, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), emerged in Wuhan in December 2019 before rapidly spreading around the world. At the time of writing (9 July 2020) this viral zoonosis, a virus that jumps from animals into humans, has infected more than 12,077,210 people and resulted in 550,327 deaths, and the figures keep climbing. (Source COVID-19 dashboard by the Center for Systems Science and Engineering at John Hopkins University).

COVID-19 is not the only disease to have caused a global threat in the past year either. African swine fever (ASF), a devastating and deadly disease of pigs, continues to sweep through the pig farms of Asia resulting in the reduction of China's pig herd by nearly 40 percent in one year. Both diseases threaten global food supplies and economies, neither has a vaccine.

Foot-and-mouth disease (FMD), a devastating and highly infectious disease of cloven-footed animals, is present in many countries worldwide and is moving into new regions causing economic and health hardship, particularly in areas where farmers rely on livestock to survive. African horse sickness (AHS), a lethal disease of horses which has been present in Africa for some time, has been recently confirmed by Pirbright to be circulating in Thailand. Scientists in the Non-Vesicular Reference Laboratory also identified the serotype that was responsible for the outbreak, which is important in choosing the most effective vaccine.

Scientists at Pirbright have also continued to study animal coronaviruses, including infectious bronchitis virus (IBV), which causes severe disease in poultry, and a deltacoronavirus which infects pigs. We have responded rapidly to the COVID-19 pandemic using our expertise in animal coronaviruses, diagnostic capabilities and specialist facilities to help combat this disease.

Our staff are volunteering at diagnostic testing sites across England, and we have loaned UK government our specialist equipment to help the diagnostic effort. We have also begun testing three different vaccines on pigs developed by the University of Oxford, Jenner Institute (a partnership between Pirbright and the University of Oxford), and Imperial College London. Similarities between the life cycles of different coronaviruses could also reveal targets for broad-spectrum control methods.

A new strategic bioimaging collaboration between Diamond Light Source and Pirbright, will further facilitate this research by allowing our scientists access to techniques and facilities that will enable them to study viral diseases in greater detail. The facilities at Diamond played a key role in the research that led the design of a new FMD vaccine funded by Defra and Wellcome and licensed to MSD Animal Health in 2019. The exclusive commercial license means this new technology will be taken into development, registration and manufacturing for a new, effective and affordable vaccine to protect livestock from FMD.

The Institute grew its worldwide academic collaborations with our scientists sharing their expertise and technology through multiple networks. The COVID-19 pandemic has brought into sharper focus why working with partners across the world is so important in tackling emerging diseases.



These initiatives help to ensure that global governments can put in place mechanisms to protect economic and food security as well as animal and human health and wellbeing.

Indeed, the position of Pirbright as a global leader in diseases that affect animal and human health was strengthened by the successful review of our Institute Strategic Programme Grants (ISPGs) halfway into the five-year funding cycle. This funding from BBSRC UKRI underpins our efforts to study viral diseases from the perspective of both the virus and the host it infects. BBSRC UKRI also supports the Core Capability Grant, which is essential to maintain Pirbright's high and low containment buildings and other specialist facilities.

The continuing emergence of new viral diseases, such as COVID-19, demands robust research and collective efforts that can respond to rapidly changing outbreak scenarios. Pirbright's global collaborations with research institutes, universities, science networks, biotech and industry, together with the support received from BBSRC UKRI, Bill & Melinda Gates Foundation, Wellcome Trust and other leading funding bodies, means that we are better equipped than ever to be able to support the UK's and the wider global response to new and existing diseases.

Professor Bryan Charleston
Director and CEO
The Pirbright Institute

PIRBRIGHT'S PURPOSE

OUR MISSION

Pirbright's aim is to prevent and control viral diseases of livestock and those that spread between animals and humans (zoonoses).

OUR VALUES

The Institute employs over 430 staff and students. It is situated on a state-of-the-art campus in Pirbright, Surrey. Our core values inform all that we do:

Passion – for the highest quality standards, delivery and performance

Reliability – in everything we do; leadership, learning, biosecurity, problem anticipation and containment of unexpected events

Innovation – is the driving force behind our fundamental and applied science. Our work is positioned at the cutting edge of science to deliver solutions for global good

Dignity and respect – we respect and trust all in our diverse community

Excellence – we aim to deliver the best in all aspects of our work including health, safety, biosafety, scientific research, customer service and protecting the environment.

We take **PRIDE** in being a world-class organisation where knowledge, expertise, facilities, professional excellence and rigorous academic, biosafety and ethical standards, allied with openness and transparency, combine to generate global health and economic impacts.

OUR GOVERNANCE

The Pirbright Institute is an independent company, limited by guarantee and a registered charity, governed by a Board of non-executive Trustee Directors. Research at the Institute is reviewed by an independent group of leading scientists who comprise of the Science Advisory Board and whose role it is to provide advice and guidance on science strategy and direction.

CHAIR OF THE TRUSTEE BOARD:



Professor John Stephenson
Professor John Stephenson became Chair on 1 January 2019. He has had a distinguished research career, with a long-standing interest in the interaction between virus infection and the immune system. He holds honorary professorships at the London School of Hygiene and Tropical Medicine and the University of Liverpool and is an Independent Scientific and Technical Advisor (ISTA) for the Surgeon General.

TRUSTEES:



Ian Bateman
Ian Bateman is currently Director of Quality at NHS Blood and Transplant. He is an Executive Director and Board Member with significant strategic leadership experience in healthcare organisations in both public and private sectors. He has a strong background in corporate leadership of quality, regulatory affairs, corporate governance, assurance, risk, health and safety, environment management and continuous improvement.



Professor Vince Emery
Professor Vince Emery is Emeritus Professor of Translational Virology at the University of Surrey and holds an Honorary Professorship in Virology at UCL.



Roger Louth
Roger Louth was a senior civil servant in the Department for Business Innovation and Skills. In his final post before retirement in 2011 he was responsible for the strategic financial management of the Government's £6 billion per annum Science and Research Budget.



Ian Black
Ian Black worked as a senior executive in a number of global organisations, including various roles covering strategy, HR, IT, quality and marketing services, and served as a member or chair of board committees for audit, remuneration, nominations and strategy in the public and private sectors.



Dr Vanessa Mayatt OBE
Dr Vanessa L Mayatt OBE was appointed to The Pirbright Institute board in 2013 and has been the chair of the board's Risk & Assurance Committee since it was established in 2015. She has held senior positions in HSE, global risk management consultancies and insurers. Whilst operating her own risk management consultancy, she undertook academic research as a university research fellow and became the Chief Executive of a research body. She has held previous board director roles in the Public Health Laboratory Service and the Health Protection Agency. In 2016 she was made an OBE for services to public and animal health.



Jon Coles
Jon Coles was a senior Partner at Brunswick Group LLP, a leading international communications consultancy, where he advised the Boards of Directors of global groups on strategic communications and corporate reputation. His particular focus was on clients in the pharmaceutical, biotechnology and agriculture industries.



Dr Sandy Primrose
Dr Sandy Primrose has detailed business knowledge and his broad expertise has been gained at a senior level in diverse industries including pharmaceuticals, diagnostics, medical devices, instrumentation, food microbiology, radio chemicals, fine chemicals and environmental testing.



Sir Bertie Ross
Sir Bertie Ross retired in June 2013 after a long and varied career including as Head of the London Agricultural Department at real estate provider Savills. He was appointed a member of the Prince's Council in 1997 and Secretary and Keeper of the Records (Chief Executive Officer) for the Duchy of Cornwall. After retiring he became a consultant to three organisations, has been a trustee of five companies and currently holds several Directorships in small businesses.



Professor David Rowlands
Professor Rowlands is an emeritus Professor of Molecular Virology and Visiting Research Professor at the University of Leeds. He worked at the Animal Virus Research Institute (now The Pirbright Institute), before transferring to industry, holding positions at Wellcome Biotech and the Wellcome Foundation.



Jane Tirard
Jane has over 30 years of experience of all aspects of strategic financial planning, financial management, financial accounting, systems and processes. As a result of her roles she has a working knowledge of government departments, funding councils, academia and the pharmaceutical industry. Her last position was as the Director of Finance and Corporate Services at the Diamond Light Source, the UK's national synchrotron science facility.



ENGAGING WITH OUR STAKEHOLDERS

As a predominantly publicly-funded organisation, engaging with all our stakeholders is an essential part of our operation and funding requirements. Our key stakeholders and how we engage with them are outlined in the table below:

STAKEHOLDERS	HOW WE ENGAGE
FUNDERS	We engage with funders at all stages of the funding process and have regular dialogue and face-to-face meetings with our key investors. Please see page 20 'Investment in Science' for further information.
PUBLIC	We engage with the public through our Outreach and Public Engagement programmes. Further details can be found in 'Science For All' on page 18.
RESEARCH ORGANISATIONS AND PARTNERS	Pirbright has numerous collaborations with universities, research institutes and disease control agencies around the world. More details can be found in 'Global Partners' on page 24.
PHARMA	Partnerships with pharmaceutical companies are essential for vaccine development, diagnostics and medicines. Find out more on 'Working with Industrial Partners' on page 23.
FARMERS	We engage with farmers, through farming bodies and through farming publications and the media including <i>BBC Countryfile</i> and Radio 4's <i>Farming Today</i> , as well as at agricultural events.
EMPLOYEES	Employee Engagement forms a central part of our overall strategy and we have a range of ways of communicating with staff and gaining their feedback including forums, staff briefings, surveys and focus groups. More information is available on page 30.
SUPPLIERS	One of the ways we engage with scientific suppliers is through an annual Suppliers' Day held at Pirbright. We also have several points of contact with visitors and contractors.
LOCAL COMMUNITY	Our neighbours are extremely important to us and we engage through sponsorship and corporate social responsibility initiatives such as Fox Corner Conservation and working with the Parish and Local Councils. Our scientists also visit local schools and colleges, more information can be found on page 18.
REGULATORS AND GOVERNMENTS	As a Major Hazard site, Pirbright forges close working relationships with its regulators such as the Health and Safety Executive (HSE), National Counter Terrorism Security Office (NaCTSO) and the Home Office. Pirbright is predominantly publicly funded and informs government policy in livestock disease control and engages regularly with BBSRC UKRI, PHE, Defra and others.
STUDENTS	Pirbright has a vibrant student community and we are committed to supporting, nurturing and offering additional learning and training opportunities. Find out more on page 32.

OUR SCIENCE AND EXPERTISE

The Pirbright Institute provides the UK with its capacity to predict, detect, understand and respond to the threat of viral diseases of livestock and those that spread between animals and people, with potentially devastating health and economic consequences.

We receive strategic funding from BBSRC UKRI for capital development and our science programmes, as well as our core capability grant. The Institute also receives income via competitive grant applications from other funders including, but not limited to, Department for Environment, Food and Rural Affairs (Defra), Medical Research Council (MRC), Wellcome Trust, Bill & Melinda Gates Foundation, and the Defence Advanced Research Projects Agency (DARPA).

BBSRC UKRI supports our two core research programmes – one linked to the study of viruses, the other to the study of hosts – through two Institute Strategic Programme Grants (ISPGs). Following a successful review in 2019, this funding was guaranteed for the final two years of the five-year funding period. The unique facilities and expertise at the Institute provide it with the capability for fundamental and applied research that inform each other. This fosters innovative research and the development of methods to prevent, diagnose and control high consequence viral diseases, helping to protect animal and human health and the economy.

Pirbright's importance as a National Capability was reinforced by a very successful visit from Sir John Kingman, the Chair of UK Research and Innovation (UKRI) in July 2019. Sir John toured Pirbright's campus, visiting multiple laboratories that house the Institute's world class science and viewing the construction of new facilities funded by BBSRC UKRI, which will increase our research capacity.



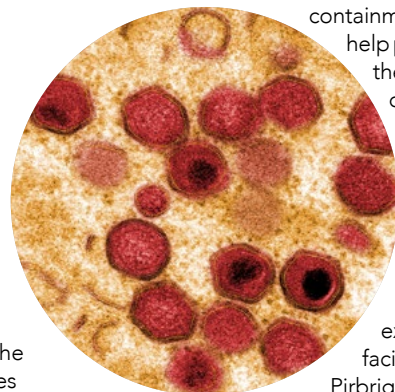
Sir John Kingman visited Pirbright and unveiled 'The Bull' to mark the 60th anniversary of the World Reference Laboratory for Foot-and-Mouth Disease. From left to right: Professor John Stephenson, Chair of the Trustee Board, Professor Bryan Charleston, Director and CEO, Sir John Kingman, Chair of UKRI, and Dr Michael Johnson, Director of Capability

PROGRAMME 1: ENHANCED HOST RESPONSES FOR DISEASE CONTROL

Led by Professor John Hammond, the Host Research Programme focuses on immunology, genetics, entomology, vaccinology and bioinformatics in the study of the natural hosts of viruses, including livestock and insects under high containment. The goal of the research is to develop new methods for the control of viral diseases through an enhanced understanding of the host biology and host-virus interactions.

PROGRAMME 2: UNDERSTANDING AND PREVENTING VIRAL DISEASES

Dr Toby Tuthill leads the Virus Research Programme designed to understand, at the molecular and cellular level, how viruses replicate, evolve, spread and cause disease, including for highly infectious or virulent viruses that must be studied under high containment. This knowledge will help produce better methods for the diagnosis, prediction and control of disease.



False colour electron micrograph of African swine fever virus (ASFV) particles (red) in an infected cell

PROTECTING THE UK

As a global centre for excellence, the specialist facilities and expertise at Pirbright represent a unique national asset that provides the country

with its ability to prepare for, and respond to, high consequence livestock and zoonotic viral diseases that threaten the UK, helping to maintain food security, economic stability, health and wellbeing. This was demonstrated during the race to develop a new vaccine to combat COVID-19 as the Institute was able to test several vaccine candidates in pigs in its high containment large animal facilities.

REFERENCE LABORATORIES

The reference laboratories housed at Pirbright perform the vital function of monitoring livestock for viral diseases including foot-and-mouth disease, African swine fever, bluetongue and African horse sickness, and are part of the UK's National Capability to protect itself from infectious pathogens of animals. The reference laboratories also work closely with our research laboratories so that fundamental and applied research inform one another and enhance our ability to control viral disease.

The international reference laboratories are accredited to ISO/IEC 17025, a UKAS accredited laboratory number 4025. In 2019-2020 Pirbright confirmed outbreaks of all the above diseases in countries around the world including a recent outbreak of African horse sickness outside of Africa which occurred in Thailand. Its diagnostic capabilities are now supporting the UK diagnostic activities for the COVID-19 pandemic.

ANIMAL RESEARCH SERVICES

The animal facilities at Pirbright are managed by a specialist team of experts who prioritise the welfare and care of the animals by treating them with compassion and respect, going above and beyond the legal requirements set by the Home Office.

In 2019 Pirbright received a Leader in Openness award from Understanding Animal Research (UAR) in recognition of its commitment to animal welfare as a signatory of the UAR Concordat on Openness on Animal Research in the UK.

BIORISK

The unique high containment research buildings at the Institute that facilitate the study of highly infectious animal viruses, including *in vitro* and *in vivo* study facilities, mean that Pirbright is designated a Major Hazard site and is subject to intense regulations and scrutiny.

Managing the inherent biorisk requires in-house, high containment engineering and health, safety and biosafety expertise. This is complemented by openness and cooperation with all of our regulatory bodies. Pirbright's world-class staff are nationally and internationally recognised for their knowledge and leadership in this area and collaborate with partners globally to offer support and advice in managing high containment facilities.

BIOIMAGING

Pirbright has dedicated bioimaging facilities with confocal microscopes, electron microscopes, flow cytometry and cell sorters that enable our scientists to investigate viral infection in detail both inside and outside high containment. In 2019 the Institute entered a strategic partnership with the Electron Bio-Imaging Centre (eBIC) at Diamond Light Source, the UK's national synchrotron science facility. eBIC houses powerful transmission cryo-electron microscopes that will allow our scientists to pursue viral research at unprecedented levels of detail.

BIOINFORMATICS

Disease modelling is important for the prediction and control of viral diseases. Pirbright biomathematicians use complex mathematical computation to understand disease transmission and spread between animals, farms and beyond. This type of modelling is crucial when new and existing diseases emerge, as demonstrated in the COVID-19 outbreak where government policy was led by scientific models.



Pigs used in research are given enrichment to provide a stimulating environment



Imaging facilities in laboratories at The Pirbright Institute.

Photography: © Andy Newbold 2018



Researcher working in the BBSRC National Vaccinology Centre: The Jenner Building



Mathematical modelling that shows the potential spread of bluetongue in the UK

Image by Dr Simon Gubbins

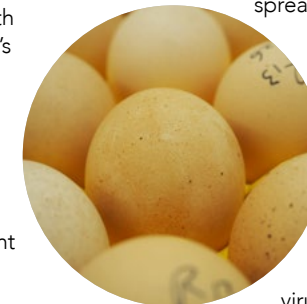
SCIENTIFIC IMPACT

Pirbright's research has global impact. Fundamental and applied science generates results that aid the development of new vaccines and treatments and inform disease control policy.

CORONAVIRUS REPLICATION

To study the locations within the cell where porcine deltacoronavirus, a coronavirus that infects pigs, makes new copies of itself during replication, scientists at Pirbright used electron microscopy to visualise structures, called replication organelles, similar to those found in cells infected with other coronaviruses. The world's attention has been focused on coronaviruses due to the COVID-19 pandemic and establishing consistent steps, structures and locations in the life cycle across the virus family could facilitate the development of broad-spectrum control methods to tackle the diseases they cause.

virus (ASFV) that generate strong immune cell responses and transferred them into viral vectors; viruses which deliver the ASF proteins to pig cells, but are not harmful to pigs. Further research is needed, but it is hoped that these vector vaccines will provide an alternative to vaccines developed using weakened strains of ASFV to help control the spread of this devastating pig disease.



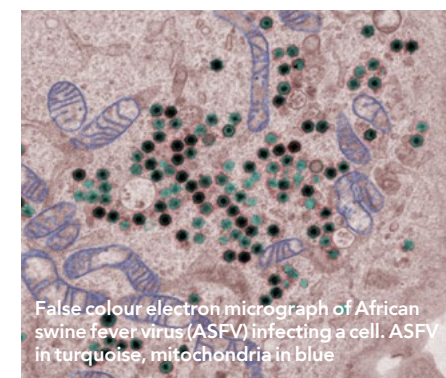
USING INFECTIOUS BRONCHITIS MUTATION FOR VACCINE DESIGN

One method of generating a weakened strain of infectious bronchitis virus (IBV) for use as a vaccine is growing the virus in eggs, and then passing the virus onto another batch of eggs repeatedly. In looking at the genetic changes that occur during this process our scientists demonstrated that IBV vaccines produced using this method have unpredictable mutations that may be prone to revert to a wild type or new strain in the field. However, they also identified a few genetic mutation hotspots that seem to be conserved and may therefore be a characteristic of vaccines developed this way. These findings reinforce the need to ensure that changes made to IBV vaccines are both reliable and achieve the best protection. The team will use this information to inform the development of weakened viruses that have been genetically modified in the lab for use as vaccines.

PROMISING PROTEINS FOR ASF VACCINE CANDIDATES

African swine fever (ASF) continues to decimate pigs in Asia. One year on from China's first reported outbreak, the country's Ministry for Agriculture and Rural Affairs reported China's pig herd had reduced by nearly 40 percent, impacting on global protein production and consumption and causing economic hardship. Pirbright's ASF research programme has been in operation since 1963 and our scientists continue to share their knowledge and expertise with countries around the world.

Pirbright scientists have identified 18 proteins encoded by African swine fever



False colour electron micrograph of African swine fever virus (ASFV) infecting a cell. ASFV in turquoise, mitochondria in blue

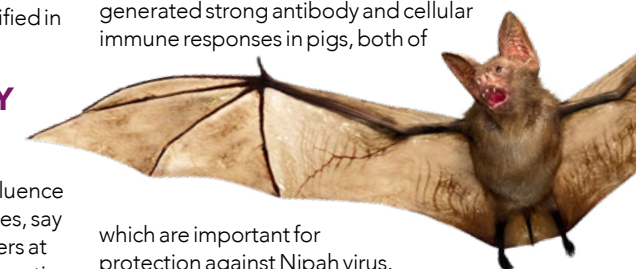


Dr Joshua Sealy sampling chickens for influenza virus in a market in Vietnam

of infection were higher in the chickens of retailers that had a greater number of unsold ducks per day and that avian influenza viruses from the same market were genetically more similar than those from other markets or provinces. This information could inform vaccination strategies in poultry populations.

NIPAH VACCINE TRIGGERS 'IMPRESSIVE' IMMUNE RESPONSE

Two new potential vaccines against Nipah virus developed by the University of Parma generate a strong immune response in pigs according to Pirbright research. Nipah virus typically infects bats, but pigs can become infected by consuming fruit contaminated with bat secretions. Spread of the virus from pigs to humans was responsible for the first and most severe human Nipah outbreak in Malaysia during 1998-99. The two vaccines generated strong antibody and cellular immune responses in pigs, both of



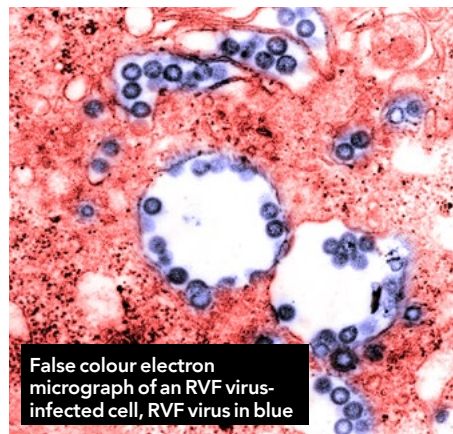
which are important for protection against Nipah virus. These results provide a solid basis for further investigation, and it is hoped that by preventing spread of the virus through pig populations, the vaccines would also lower the chances of humans contracting the disease which supports the 'One Health' approach to disease prevention and control.

RINDERPEST, SEQUENCED AND DESTROYED

In June 2019 scientists in the World Reference Laboratory for Rinderpest at Pirbright destroyed the final rinderpest virus stocks held in its archive (apart from a minimal number of reference samples). Before destruction the genetic information of each stock was recorded through full-genome sequencing. This action completed a major milestone in the World Organisation for Animal Health (OIE) and Food and Agriculture Organization of the United Nations (FAO) programme to ensure the world remains free from rinderpest disease, which was declared to be eradicated in 2011. The FAO estimates that the eradication of rinderpest has alleviated losses of US\$920 million each year in Africa alone. Pirbright remains one of only five designated global Rinderpest Holding Facilities.

Section from bovine duodenum showing rinderpest virus infection. Green indicates those cells which are infected by the virus

Photography: ©F A Murphy; J Dalrymple



False colour electron micrograph of an RVF virus-infected cell, RVF virus in blue

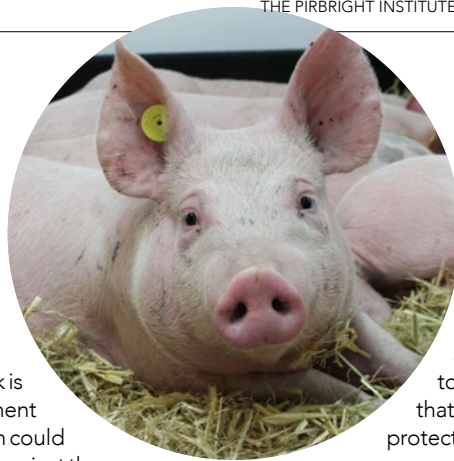
RIFT VALLEY FEVER VACCINE SAFE FOR PREGNANT ANIMALS

Scientists from Pirbright, The Jenner Institute, Wageningen University Research in the Netherlands, BioVacc Consulting Ltd and the KEMRI-Wellcome Trust Research Programme in Kenya have shown that a new vaccine is effective at protecting pregnant sheep and goats from Rift Valley fever (RVF), a debilitating disease that can also be transmitted to humans. The new vaccine overcomes technical and safety drawbacks

of current RVF vaccines, such as causing pregnancy complications or the requirement for multiple booster vaccinations. This work is a key step in development of a new vaccine, which could be the first to be used against the same virus in both animals and humans.

PIGS ARE A GOOD MODEL FOR HUMAN FLU VACCINE TESTING

Flu vaccines are selected each year based on the previous year's prevalent strains and it is important to test them to ensure they provide the best protection possible against the seasonal burden of influenza. In looking for new ways to test effectiveness, a study by researchers at the Institute suggests that pigs are a good model for evaluating vaccines designed to protect against seasonal human flu. When pigs were infected with the 2009 H1N1 swine flu pandemic virus they produced lower levels of virus if they were immunised with a single dose of the vaccine used during the 2017-18 human influenza season. Pigs are



more physiologically and anatomically similar to humans than those small mammals often used in research, so they can also be used to study the mechanisms that lead to immune protection.

FAT AND PROTEIN IMPORTANT IN MAREK'S DISEASE REPLICATION

In two separate studies Pirbright scientists have shown that fat production pathways are necessary for Marek's disease virus (MDV) to make new copies in infected cells. Fat production induced by virus replication is also important for suppression of the anti-viral response and can be blocked, which the researchers will test in further studies. Researchers also demonstrated that infected cells seem to be 'addicted' to glutamine, an amino acid building block found in proteins. Cells infected with MDV, which causes a deadly cancer in chickens, increase their uptake of glutamine and are unable to survive without it. Scientists will also study whether blocking glutamine uptake could lessen MDV infection and reduce the spread of the disease.

IMPACT OF POX VIRUSES ON NIGERIAN FARMS

Lumpy skin disease (LSD) sheeppox and goatpox (SGP) are caused by infection with capripoxviruses and are found throughout large parts of Africa and Asia, though they occasionally also spread into Europe. Pirbright researchers found that outbreaks of these diseases have an immediate and long-lasting impact on the livelihoods of farmers in North-East Nigeria. On average farmers lose a third of their herd value after SGP or LSD outbreaks. As LSD and SGP vaccines are currently unavailable in Nigeria, the research helped scientists to suggest potential tailored control strategies, rather than blanket procedures that could prove to be ineffective.

POULTRY CELL DEATH PROTEINS IDENTIFIED

Two chicken proteins that may be involved in immune regulation of cancerous cells and viral infection, named Programmed cell death 1 (PD-1) and Programmed cell death ligand 1 (PD-L1), have been characterised by Pirbright researchers. Activation of these proteins is known to cause immune cell 'exhaustion' and prevent the immune system from destroying infected cells. Both proteins were shown to have similar structures and interactions

compared to their equivalents in humans and other animals. Scientists also produced the first specific antibodies for the chicken proteins, allowing them to examine the interactions and effects of these proteins more closely and setting the stage for the development of immunotherapy treatments that block the pathway, which could revive immune cells and therefore enable them to clear infection.

MAPPING AFRICAN SWINE FEVER VIRUS GENES

African swine fever virus (ASFV) is a large DNA virus whose genome includes 150-190 genes. In a comprehensive genetic study using next generation sequencing techniques, scientists at Pirbright and University College London (UCL) were the first to map the expression of those genes, determining when and how they are turned on or off throughout the cycle of infection. The study also uncovered new, previously unknown, genes and findings with potential to provide vital information for the development of vaccines and antiviral drugs to help prevent this deadly pig disease.

UNDERSTANDING GOAT IMMUNE KILLER CELLS

In order to better understand how goat and sheep natural killer (NK) cells recognise when other cells are infected by invasive viruses or other microbes, scientists at Pirbright studied the genes that code for the proteins on the NK cell surface, known as receptors. These receptors detect infected cells and initiate their destruction to halt the spread of microorganisms. Using advanced sequencing technology to obtain accurate genetic information, they found that goat and sheep genes



CLIMATE CHANGE EXTENDS UK MIDGE SEASON

A team of scientists from Pirbright, Rothamsted Research, the Centre for Ecology and Hydrology and the Met Office gathered data across two UK sites over nearly 40 years that shows differences in the adult active period of the *Culicoides* biting midge. This is the first evidence that the UK midge season has extended due to climate change, which could have consequences for the health of animals susceptible to the diseases they carry. The findings may help scientists to make better predictions about how the spread of livestock diseases that are transmitted by midges, such as bluetongue, might alter in response to future climate change.



Culicoides biting midge is responsible for the spread of several animal diseases, including bluetongue

for specific immune cell receptors are extremely diverse and differ from those of other livestock relatives. This research could inform livestock genotyping platforms for the purpose of breeding healthier, disease-resistant animals.

DUAL POULTRY VACCINE

The powerful gene editing tool CRISPR/Cas9 has been used by Pirbright researchers to create a vaccine for poultry that will protect against both Marek's disease and avian influenza. Using the technology, an avian influenza gene that codes for haemagglutinin (HA) is inserted into the turkey herpesvirus (HVT) that is used in Marek's disease vaccines. HA is an influenza virus protein found on the virus surface that enables it to enter host cells and is therefore an important target of the host immune response. This new method will reduce the time

it takes manufacturing companies to adapt their vaccine strains to match flu mutations, allowing for faster responses to outbreaks and improved protection.

ENGINEERED ANTIBODIES FOR AVIAN INFLUENZA

Avian influenza, such as the H9N2 strain, poses a great risk to the poultry industry as well as people due to its ability to mutate and adapt to new mammalian hosts.



To create a new treatment for this disease, Pirbright researchers engineered synthetic antibody molecules which bind to the H9N2 virus that they were able to use to prevent the virus from entering cells in tissue culture. Intranasal administration of the antibody to chickens reduced the amount of virus and resulted in the chickens continuing to gain weight, when compared to chickens that did not receive the antibody, since these birds lost weight due to infection. Further work is required to determine the effectiveness of this promising immunotherapy treatment option, which could be adapted for other diseases of animals and people.

THE HOUGHTON FACILITY

The Houghton Facility is Pirbright's purpose-built Specific Pathogen Free (SPF) poultry facility dedicated to the incubation, hatching and growth of birds. This means poultry reared in the building are guaranteed to be free of disease, enabling scientists to carry out research knowing the birds have no underlying conditions or previous exposure that could interfere with experiments. The £4 million Houghton Facility was made possible through a £250 million investment by BBSRC UKRI and is an essential part of government strategy in helping secure the UK's food supply since diseases of poultry cost the UK £146.7 million annually.

The rearing room in The Houghton Facility, a Specific Pathogen Free (SPF) animal laboratory for disease-free poultry

Photography: © James Brittain 2020

Photography: © James Brittain 2020

A GLOBAL CENTRE OF EXCELLENCE

Pirbright's unique site comprises fundamental research and applied science in both high and low containment research laboratories and animal facilities.

THE BBSRC NATIONAL VIROLOGY CENTRE: THE PLOWRIGHT BUILDING

The Plowright Building is a high containment (SAPO4) research facility. It is an essential facility for the Institute's two scientific programmes, allowing *in vitro* research into virus diseases of livestock, including the study of highly infectious viruses such as foot-and-mouth disease (FMD) and African swine fever (ASF). In 2019 the facilities in the building were instrumental in the destruction of the last samples of rinderpest virus held in the World Reference Laboratory for Rinderpest at Pirbright. It is named in honour of Walter Plowright who played a key role in the eradication of rinderpest by developing a vaccine.

THE BBSRC NATIONAL VACCINOLOGY CENTRE: THE JENNER BUILDING

The Jenner Building is a low containment research laboratory that allows researchers to work on strategically important endemic and exotic viruses which can be handled under low containment, including Marek's disease virus (MDV), infectious bronchitis virus (IBV), and low pathogenicity animal influenza viruses. The award-winning Jenner Building was opened in 2017 by HRH the Princess Royal. As well as being a leading UK vaccine development hub and

research centre for viral diseases of livestock, it is facilitating collaborative work such as the Livestock Antibody Hub and UK Immunological Toolbox.

THE PHILIP MELLOR INSECTARY

The Insectary provides the infrastructure for the production, growth and maintenance of unique mosquito and midge colonies. The building was named in honour of Professor Philip Mellor, who expanded entomology research at Pirbright. Insects reared in the Insectary can act as vectors to spread diseases of veterinary, medical and agricultural importance. *Culicoides* biting midges, *Aedes* and *Culex* mosquito species, including genetically modified lines, are among the those housed in the Insectary. These insects can be studied in and out of high containment (using The Plowright Building) to improve understanding of the relationship between virus, vector and host.

THE IS4L INSECTARY

Research into the genetics of various insect species and the ability to manipulate these to create new infection and transmission resistant lines to viruses such as West Nile and Zika is crucial to control these vector borne diseases. The IS4L insectary features specialised temperature and humidity rooms to produce insects. There is a critical shortage of insectary facilities in the UK, so this facility will be developed to further enhance insectary capability in the future.

THE BROOKSBY BUILDING

Currently under construction and due for completion in 2022, The Brooksbury Building is a high containment laboratory designed for *in vivo* experimental work on viral diseases such as FMD and ASF. It will provide the UK with the capacity to handle large groups of livestock infected with viruses that can cause serious infections in people. The laboratory is crucial in the overall development of the Pirbright campus and will facilitate sustained research success on viral diseases of livestock and zoonotic diseases. It is named in honour of John Brooksbury who joined the Foot-and-Mouth Research Institute at Pirbright in 1939, became Director in 1957 and established the World Reference Laboratory for Foot-and-Mouth Disease, which is now in its 60th year.

THE BIGGS BUILDING

The Biggs Building, which is due for completion in early 2021, is an avian research facility which will operate at containment level 2 and be used for *in vivo* avian research. Named after Peter Biggs, the first person to isolate the virus that causes Marek's

disease, the project is being facilitated by an investment of £6.5 million from BBSRC UKRI and will enable the transfer of current avian research from temporary facilities.

FUTURE PLANS

Pirbright's vision is to deliver a campus which fulfils its objectives and adapts to changing needs in the viral research landscape. £7 million in capital funding from BBSRC UKRI will enable completion of two critical infrastructure projects for the site: a new effluent treatment plant to service the high containment animal facility (early 2021) and a combined heat and power plant to deliver 95 percent of Pirbright's electricity demand (mid 2021).

Future facilities, under the next Phase 3 of development (funding permitted), include:

- Additional low containment laboratory
- New insectary
- Stores and facility management centre
- New administration building
- Car park

SUSTAINABILITY

The Institute is committed to environmental sustainability and is undertaking 15 projects that will make a positive contribution. These will be completed over the next two to three years and will reduce energy consumption, help reduce our carbon emissions and make us more efficient. The Institute will base its environmental objectives around the UKRI Environmental Sustainability Strategy which drives towards a zero-carbon future.

The following figures reflect the Institute's best estimates of its environmental impact during the 2019-2020 financial year

GREENHOUSE GAS EMISSIONS	
EMISSIONS TONNES CO ₂ e	
Scope 1 : Gas	3,620,551
Scope 2 : Electricity	2,858,250
Scope 3 : Official business travel	5,577
Total emissions	6,484,378
Emissions per £ of grant received – tonnes CO ₂	0.2
ENERGY CONSUMPTIONS – kWh	
Scope 1 : Gas	17,466,483
Scope 2 : Electricity	11,182,512
Scope 3 : Official business travel	1,621
Total energy consumption	28,650,616
Consumption per £ of grant received - kWh	0.87
FINANCIAL INDICATORS	
Total Energy cost - £'000	2,059
Energy cost per £ of grant received	6.2265p
Cost of official business travel - £'000	12
Cost of official business travel per £ of grant received	0.0003p

Numbers for the previous year are not available. In 2020/21 we will publish two years of figures.

"One of the best science festival events I've ever been to."

Visitor, Cheltenham Science Festival, 7-9 June 2019

SCIENCE FOR ALL

There's no shortage of people at Pirbright who are willing to get involved in public engagement, whether it is Science, Technology, Engineering and Maths (STEM) careers fairs or hands-on workshops at schools, universities, agricultural shows and national science festivals. More than 130 staff and students, including over 70 STEM Ambassadors, participated in 45 public engagement and outreach activities last year.



Dr Zoo, otherwise known as Dr Karl Byrne, of the London School of Hygiene and Tropical Medicine, compered each of the interactive Viral Survival experiences, adding to the tension and drama

VIRAL SURVIVAL ESCAPE ROOM

The 'Viral Survival' science escape room was the centrepiece of Pirbright's Cheltenham Science Festival exhibit in 2019. The exhibit was designed to illustrate the role science plays in combatting infectious viruses. Themed around an outbreak of 'Disease X', an unknown virus that is spreading between animals and people, teams of ten people competed against each other to complete four zones against the clock. Each zone featured a unique puzzle based on aspects of viral research and by cracking the codes, participants received clues to help them identify the mystery virus.



Pirbright also sponsored 'Predicting Pandemics', a panel event that tackled the big question on how pandemics spread across the globe, and how scientists use different tools to predict and prevent their spread



Pirbright's stand in the Discovery Zone featured Dr Zoo's Travelling Science Lab, a Tardis-inspired mini-escape room that provides heaps of interactive learning to teach the basics of disease prevention and control. More than 500 people took a crack at Dr Zoo's lab over the three days

PIRBRIGHT ENGAGEMENT HIGHLIGHTS

Collingwood College was one of the **17 schools** our staff visited throughout the year to help students understand the many roles available at research institutes like ours.



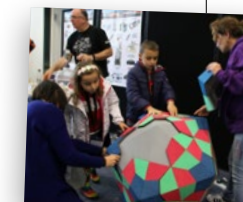
Students at our **annual Science Day** at Tillingbourne Junior School learn how germs (represented by UltraViolet powder) spread through touching contaminated surfaces. Our volunteers use a UV torch to reveal how well they have washed their hands!

The **Fleet Brownies** received a visit from Henrietta the Hen, who squawks when she is tested for flu. She demonstrates why testing animals for disease is important for keeping the whole population healthy.



Our student volunteers ran **Pirbright's Big Bang South East 2019** stand to show secondary school pupils how using genetics is a key scientific tool to further understanding of viruses and the animals they infect as well as developing crucial treatments and vaccines.

Foot-and-mouth disease (FMD) researchers from Pirbright use the giant FMD virus puzzle to explain how their work with **Diamond Light Source** helps them to understand the structure of the virus, which is vital for moving vaccine research forward.



Our close relationship with the local community is demonstrated every year when Pirbright volunteers help out at **Fox Corner Community Wildlife Area**, removing invasive plant species and clearing the pond. Pirbright is also a member of the Fox Corner Conservation Committee, strengthening our partnership.

At the **LEAF Open Farm event** on Hampton Estate near Farnham, our Immunogenetics Group show how their genetics research aims to improve livestock disease resistance.



Surrey County Show is a regular local agricultural event that provides us with opportunity to showcase the Institute's work to the local community and engage people of all ages in our science.



Visitors attempt to evade a deadly virus by cracking codes in the Contagion Zone in the Viral Survival Escape Room at Cheltenham Science Festival

INVESTMENT IN SCIENCE

PIRBRIGHT’S PROGRESS A SUCCESS

Pirbright holds two BBSRC UKRI Institute Strategic Programme Grants (ISPGs) that underpin research on viral diseases at the Institute. In 2019 both grants were positively reviewed securing strategic funding until the end of the cycle in 2021. We have also secured additional funding from the Bill & Melinda Gates Foundation, Defra and BBSRC UKRI.



Professor John Hammond has been awarded **£4.2 million (US\$5.5 million)** by the Bill & Melinda Gates Foundation to support the Pirbright Livestock Antibody Hub. The Hub will enable antibody discovery, manipulation and testing in cattle, poultry and pigs, contributing to a strategic goal to establish products and technologies for the benefit of smallholder farmers.



The Bill & Melinda Gates Foundation has awarded **Professor Luke Alphey £2.9 million (US\$3.6 million)** to develop high-threshold gene drives for the control of malaria transmitting mosquitoes in proof-of-concept studies. This will build upon preliminary work to develop similar systems in *Aedes* mosquitoes and apply them to *Anopheles* species.



Dr Simon Gubbins has been awarded **£1.5 million** by Defra to investigate whether non-invasive environmental and air sampling methods can provide an alternative means of foot-and-mouth disease virus (FMDV) detection on farms to clinical inspection. This builds on previous studies conducted in Nepal, where foot-and-mouth disease (FMD) outbreaks occur regularly, and will be applied to different environmental conditions and farming systems.



Culicoides biting midge-borne diseases such as bluetongue virus (BTV) and African horse sickness virus (AHSV), are a major threat to UK agriculture. To help combat these diseases Defra has awarded **Dr Carrie Batten and Dr Karin Darpel £1.1 million** to advance molecular diagnostics within the Non-Vesicular Reference Laboratory (NVR) at Pirbright and further understanding of the protective immune responses of sheep and cattle to bluetongue infection and vaccination.



BBSRC UKRI has awarded **Dr Toby Tuthill £413,982** to identify and validate host genes essential for foot-and-mouth disease virus (FMDV) replication in a collaborative project between The Roslin Institute and the University of Edinburgh. Candidate genes will then be tested by using gene-editing to disrupt or delete them from pig cells to see how this affects FMDV infection and replication in those cells. This research will be a stepping-stone towards the development of foot-and-mouth disease resistant pigs.



Dr Helena Maier has been awarded **£367,234** from BBSRC UKRI for a collaborative project that will investigate common host proteins within replication organelles which form in coronavirus infected cells. These studies could lead to antivirals, vaccines and other interventions that target multiple members of the coronavirus family.



Improving livestock disease resistance requires investigating the genetics underlying the animal immune responses to viruses and vaccines. **Dr Holly Shelton and Professor John Hammond** have been awarded **£422,383** by Aviagen to work collaboratively analysing differences in innate immune genes amongst different commercial chicken lines that may alter levels of protection against avian viruses such as highly pathogenic avian influenza.



Professor Simon Graham and Dr Julian Seago have been awarded **£299,691** in funding from a pharmaceutical company to develop a next-generation vaccine to help protect against porcine reproductive and respiratory syndrome virus (PRRSV).



Dr Julian Seago has been awarded **£1.1 million (US\$1.5 million)** by the Bill & Melinda Gates Foundation to develop a foot-and-mouth disease (FMD) vaccine for immunisation of cattle in East Africa. The quadrivalent vaccine will use conventional and recombinant approaches to protect against four different serotypes of foot-and-mouth disease virus (FMDV) at once.



Honey bees are crucial for pollination of food crops and production of products such as honey, but in the past two decades, honey bees have suffered declines across Europe and North America through a number of causes, including viruses. **Professor Luke Alphey** has won **£699,859** from BBSRC UKRI to investigate whether infection with *Wolbachia* bacteria can protect bees from viral diseases.



Dr Karin Darpel, Dr Simon Carpenter and Dr Chris Sanders, in collaboration with **Professor James Logan** from the London School of Hygiene and Tropical Medicine and **Professor John Pickett** from Cardiff University have been awarded **£466,424** from BBSRC UKRI to study how bluetongue virus (BTV) changes body odour of sheep and cattle during infection. Insect vectors use body odour to locate their host, therefore these studies will provide new insight into the transmission of vector-borne viruses while also exploring the potential of non-invasive diagnostics to detect virus infections in livestock.



A BBSRC UKRI LINK grant worth **£465,458** has been awarded to **Professor Munir Iqbal** and industry partner MSD Animal Health, who will contribute **£582,408**, to develop next generation vaccine technology that delivers avian influenza antigens, the parts of viral proteins that stimulate immune responses, to specific chicken immune cells. *In vivo* studies will help determine if this induces rapid and strong immunity in chickens and has potential to become an inexpensive, easy and safe commercial poultry vaccine.



Dr Pip Beard has won **£356,484** from BBSRC UKRI for further studies on the transmission of lumpy skin disease (LSD) between cattle by insects such as mosquitoes, flies and midges. The project, which is an industrial partnership award (IPA) with MSD Animal Health, will look at the transmission of lumpy skin disease virus (LSDV) from clinical donor animals to naïve recipients.



Dr Andrew Broadbent, in collaboration with researchers in the USA and **Dr Holly Shelton** as Co-Investigator, has been awarded **£307,952** from the BBSRC Ecology and Evolution of Infectious Diseases programme (EEID) to evaluate how the immune status of a flock affects the duration of disease, transmission parameters and evolution of avian influenza viruses. Understanding these dynamics will help to control these diseases.



The EU has awarded **Dr Carrie Batten £250,558** in continuity funding for European Virus Archive GLOBAL, a non-profit organisation that mobilises a global network with expertise in virology to collect, amplify, characterise, standardise, authenticate, distribute, track and collect viruses and derived products.



Professor Satya Parida will receive **£157,314** from BBSRC UKRI for a project to develop next generation vaccines for peste des petits ruminants (PPR), also known as goat plague, that differentiate between infected and vaccinated animals. Being able to make this distinction will facilitate accurate disease surveillance programmes and is an important step in the eradication plan for this disease.



Pigs are suffering globally from African swine fever, with China's pig herd down by nearly 40 percent a year after the disease entered the country. Pirbright researchers are working together with industry partners to develop better vaccines and antivirals that could combat this disease



INDUSTRIAL PARTNERS

Commercial partnerships are a strategic priority for Pirbright since they facilitate bringing new vaccines and treatment options to market that help combat viral diseases. Pirbright has disclosed 13 new inventions and filed four new patent applications during 2019-20.

PIRBRIGHT LICENSES FOOT-AND-MOUTH DISEASE VACCINE

Together with our research partners we have granted MSD Animal Health a commercial licence to produce a new and affordable vaccine to protect livestock against several serotypes of foot-and-mouth disease virus (FMDV). The vaccine is made of small synthetic protein shells called 'virus like particles' (VLPs), which mimic the FMDV outer shell and are designed to trigger optimum immune responses. It is the result of long-standing collaborations between Pirbright, the University of Oxford, Diamond Light Source, the University of Reading and MSD Animal Health, a division of Merck & Co., Inc., who will take forward the new technology into development, registration and manufacturing. The work has also been supported by funding from the Wellcome Trust to speed up commercialisation. The granting of the licence highlights the confidence MSD Animal Health has in the vaccine's effectiveness, safety and viability for commercial production and is an important milestone marking the years of research it takes to develop a new vaccine.

POULTRY PROTECTION PARTNERS

Pirbright has entered into a worldwide exclusive partnership with ECO Animal Health Ltd (ECO) on two new projects to combat multiple economically important diseases of poultry. The first project will be on the development of a vaccine that could protect against four poultry viruses simultaneously. Utilising an existing vaccine that immunises against Marek's disease, Pirbright's expertise in recombinant vaccine development will enable ECO researchers to insert protective genes from avian diseases such as infectious bursal disease virus (IBDV), Newcastle disease virus (NDV) and infectious laryngotracheitis virus (ILT) so that a single immunisation will protect chickens from these diseases as well as Marek's disease.

The second project is to develop a novel biological product using a viral vector system expressing proteins that will aid in the protection of chickens against infectious bronchitis virus (IBV). It is estimated that every 10 percent reduction in infectious bronchitis incidence would be worth around £654 million to the global poultry industry.

AFRICAN SWINE FEVER ANTIVIRALS

African swine fever (ASF) causes a lethal viral haemorrhagic disease in pigs and there is no vaccine. It is a global threat to food security and the economy, which has accelerated the need for effective treatments. Pirbright researchers are partnering with the Belgian biotechnology company ViroVet to develop the first antiviral drugs that act against ASF. In the absence of a vaccine, antiviral drugs could

provide an alternative control method which would help limit clinical signs in pigs and lower virus replication. This could reduce the spread of disease and help to contain outbreaks, ultimately reducing the number of pigs lost to this deadly viral infection.

NEW PATENTS GRANTED TO COMBAT LIVESTOCK DISEASES

Pirbright has been granted a patent in Mexico for gene-editing technology that could enhance the growth of vaccines for avian diseases. Scientists working closely with Horizon Discovery Group, have already been granted a patent in Europe and the USA for technology that uses gene-editing to delete an important chicken immune gene called IFITM, leading to higher yields of vaccines when grown in cells that don't have the gene. Funding from BBSRC UKRI and the International Development Research Centre (IDRC) supported the project, which could make the production of vaccines for diseases such as influenza more economically and technologically viable for developing countries.

Another patent has been granted in Europe for an African swine fever (ASF) vaccine that had previously been granted a patent in Africa. The vaccine was developed by Pirbright researchers who deleted a gene important in helping the virus overcome the pig immune response. This creates a weakened virus that does not cause severe disease or death in pigs but provokes an immune response that is strong enough to protect them from natural strains of African swine fever virus (ASFV).



Livestock farmers in countries like Tanzania would benefit from an affordable foot-and-mouth disease vaccine that is less reliant on a cold-chain for transport and distribution

COLLABORATIONS WORLDWIDE

Professor Pippa Hawes, Head of Bioimaging at Pirbright, and Dr Nicole Doyle using a confocal microscope

One of Pirbright's strategic priorities is to contribute to food security and One Health Agenda through global collaborations. We are committed to sharing our knowledge and expertise to build capacity in countries that require more robust mechanisms to protect their livestock and livelihoods against viral diseases.

GENE DRIVE RESEARCH NETWORK

Pirbright has joined the Outreach Network for Gene Drive Research. Genetic modification of mosquitoes and other insects in order to control the spread of the diseases they carry is an area of science that provokes vigorous debate. The Network's mission is to raise public awareness about the potential value of this technology. Professor Luke Alphey and other Pirbright scientists are leading the development of genetics-based methods to reduce mosquito-borne disease. Joining the Network will help us communicate with a wider range of stakeholders and interested parties regarding the potential to integrate genetics-based methods into disease control efforts.

IMMUNOLOGICAL TOOLBOX

Scientists at Pirbright have partnered with The Roslin Institute to launch The UK Immunological Toolbox, a website that provides a platform for veterinary researchers to find resources and collaborate. The Toolbox aims to remove barriers to veterinary vaccine development by aiding information exchange and providing a central database of reagents, including antibodies, modified proteins and cell lines. The Toolbox is expected to grow as further information on unique institutional collections is received from around the world and both the number of reagents and species included will increase. This will ensure that the

UK and global community have access to an expanding resource guaranteed by long-term strategic funding from BBSRC UKRI.

eBIC BIOIMAGING PARTNERSHIP

A five-year collaboration has been agreed between Pirbright and the electron Bio-Imaging Centre (eBIC) at Diamond Light Source that will help our scientists to study viral diseases in unprecedented detail. To facilitate this partnership, Professor Pippa Hawes, head of Bioimaging, will split her time between the two organisations to help prepare Pirbright research projects for high resolution electron microscopy and to contribute to Diamond's user programmes and development initiatives. The new relationship will bring together two internationally renowned institutions that form an essential part of the UK's National Capabilities and represents a conscious effort to increase research resilience and innovation identified by the UK Research and Innovation (UKRI) Infrastructure Programme.

UK AND CHINA TACKLING AVIAN DISEASE TOGETHER

Scientists from the UK and China gathered in Zhengzhou, China between 23 and 25 September 2019 to attend the annual UK-China Centre of Excellence for Research on Avian Diseases (CERAD) conference. The

conference addressed the current problems in controlling diseases that have a huge economic impact on the poultry industry. Pirbright's Professor Venugopal Nair OBE and Dr Yongxiu Yao were among the keynote speakers who discussed recent research tackling issues such as the ways in which viruses become more damaging to hosts, cross-species transmission and changes in clinical signs.

GLOBAL VIRAL DEFENCE

DEFEND, a network of researchers whose members work on African swine fever (ASF) and lumpy skin disease (LSD), held its second annual meeting in September 2019. Funded through Horizon 2020, the project aims to improve animal health worldwide through the control of these two diseases, particularly as the ASF crisis continues. Participants gathered to hear progress on areas such as ASF and LSD vaccine development, transmission studies to inform prevention strategies and investigations into how environmental factors like conflict and migration can influence the range of these diseases. Participation and promotion of women in science was also addressed as one of the core values of the project, which is led by Pirbright's Dr Pip Beard.

GNATWORK SKILLS TRAINING

In November 2019 scientists in Gnatwork, a network that brings together scientists working on blackflies, sandflies and biting midges, hosted a conference and training for a group of international early career researchers at Universidade Federal De Minas Gerais (UFMG), Brazil. Pirbright scientists were among those leading the seminars and workshops which aimed to provide best practice training to researchers from countries that receive Official Development Assistance, who would otherwise find access to training difficult. Scientists were able to share expertise and methodologies and the event also helped identify barriers to research in the attendees' home countries, such as funding, facilities and career progression, with a view to finding ways to break down or circumvent impediments to research.

PIRBRIGHT WELCOMES PIG AND POULTRY DISEASE SCIENTISTS

Pirbright hosted Newton Fund Swine and Poultry Research Initiative delegates from the UK, China, Thailand and the Philippines in January 2020. The day's events included scientific talks focused on the research being undertaken at Pirbright and how our state-of-the-art facilities provide the UK with its National Capability to prevent and control viral diseases. The projects, funded

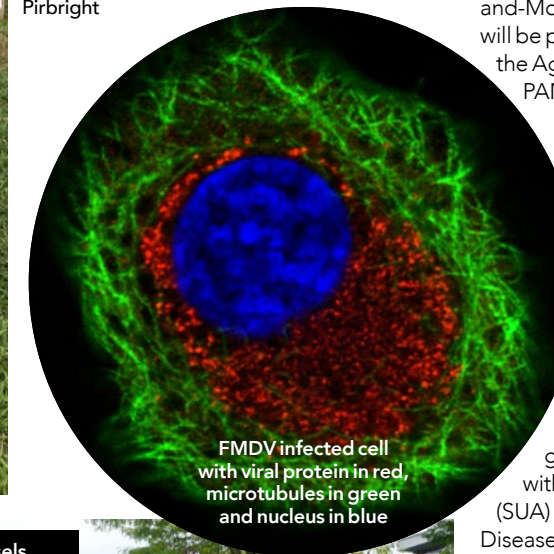
Pirbright scientists attended the UK-China CERAD conference in Zhengzhou, China, where researchers from the UK and China provided updates on research to control avian viral diseases



Early career researchers learning how to set traps for field research during the Gnatwork conference and workshop at the Universidade Federal De Minas Gerais (UFMG), Brazil



Professor Venugopal Nair OBE presents to the Newton Fund Swine and Poultry Initiative delegates during their visit to Pirbright



FMDV infected cell with viral protein in red, microtubules in green and nucleus in blue



Delegates at the annual DEFEND meeting in Brussels

through the initiative between UK and overseas partners, have been underway for almost two years, and the meeting marked a midway point workshop. Research includes the development of new diagnostic devices and vaccines that are designed to provide increased capacity to prevent and control swine and poultry diseases with three projects co-led by Pirbright investigators.

EVALUATING FOOT-AND-MOUTH DISEASE VACCINES FOR AFRICA

In a flagship twinning project funded by the World Organisation for Animal Health (OIE) Pirbright is helping to develop Africa's capacity for the independent assessment of foot-and-mouth disease (FMD) vaccines. The funding provides Pirbright with the resources to do this work in partnership with the African Union Pan-African Veterinary Vaccine Center (AU-PANVAC). The two-year project will help build a pipeline of tools that will enable customers in Africa to make informed decisions about the suitability of the vaccines they are considering, ensuring that the limited resources available in those countries are put to better use and are more effective at controlling FMD.

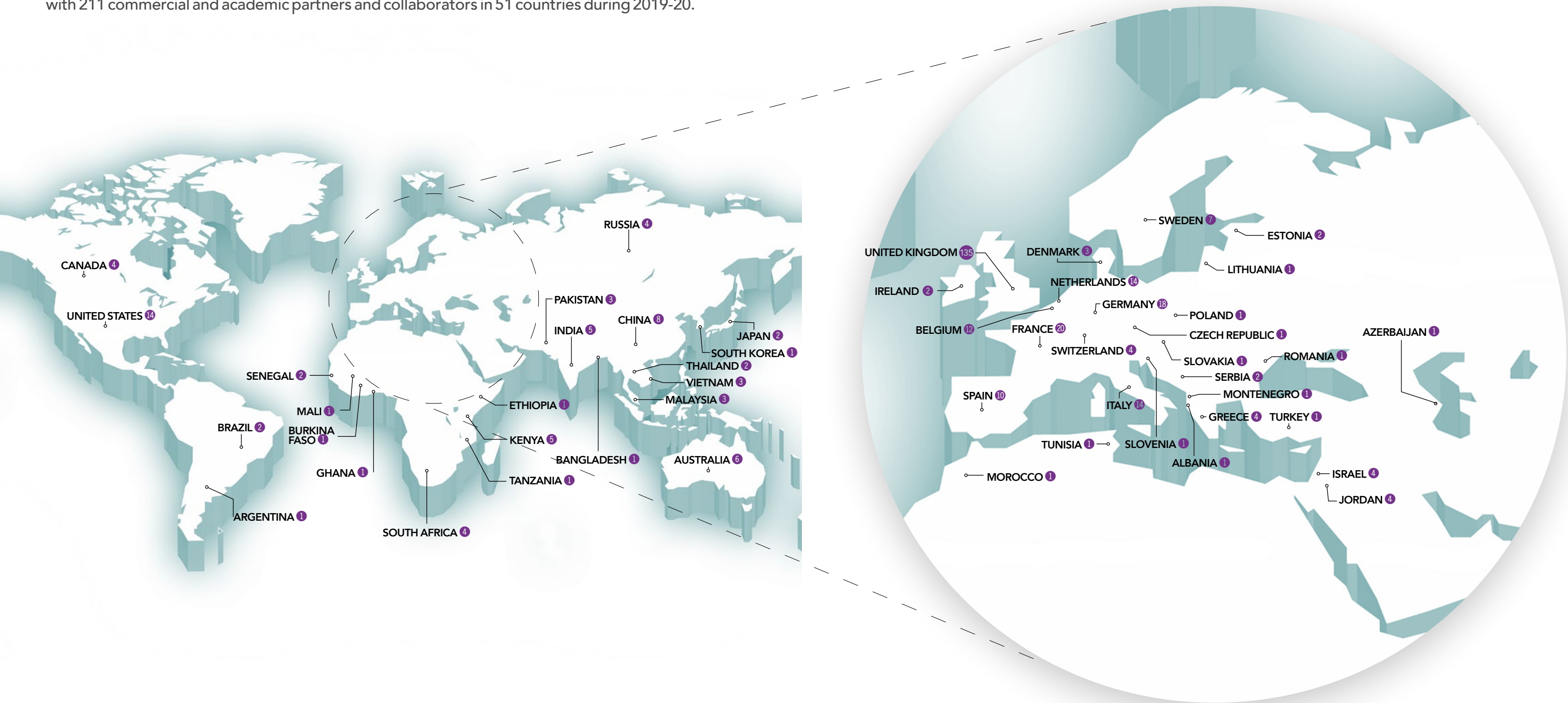
The World Reference Laboratory for Foot-and-Mouth Disease (WRLFMD) at Pirbright will be providing technology support for the AgResults challenge alongside AU-PANVAC.

COMBATting GOAT PLAGUE

Peste des petits ruminants (PPR), also known as goat plague, is a highly contagious viral disease of sheep and goats that remains endemic in many developing countries in Asia, the Middle East and Africa, causing losses of US\$1.5 to 2 billion every year. The disease is targeted for eradication by 2030 and in order to help meet this goal, Pirbright scientists are working with the Sokoine University of Agriculture (SUA) Southern African Centre for Infectious Disease Surveillance (SACIDS) in Tanzania to build its capacity by providing expertise and viral diagnostics technology that will enable rapid detection of PPR. This collaborative work, funded by two ongoing Global Challenges Research Fund (GCRF) grants through BBSRC UKRI and the Engineering and Physical Sciences Research Council part of UK Research and Innovation (EPSRC UKRI), will increase the productivity and incomes of small-scale/house-hold farmers in Africa as well as the health and stability within local, regional and national economies.

PIRBRIGHT'S INTERNATIONAL PARTNERS

Pirbright prides itself on establishing partnerships across the world to help ensure diseases can be tackled where they emerge and in countries that are most affected. We were involved in 98 projects with 211 commercial and academic partners and collaborators in 51 countries during 2019-20.



OUR SUCCESS STORIES

The Institute, its scientists and staff received a variety of prestigious awards last year, recognising Pirbright's scientific and operational commitment to excellence.



Dr Pip Beard has been made a board member of The Genomia Fund, a seed and pre-seed fund that supports the commercialisation of new technologies and to start the process of bringing them to market.



Professor Simon Graham, head of the Porcine Reproductive and Respiratory Syndrome (PRRS) Immunology Group, was made a Visiting Professor at the University of Surrey

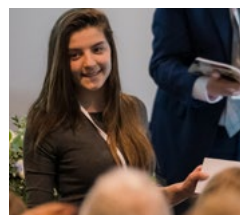


Pirbright is a recipient of the first **Leader in Openness awards from Understanding Animal Research (UAR)**. Awarded for a period of three years, 2019-22, the accolade recognises Pirbright's commitment to the UAR Concordat on Openness on Animal Research in the UK as one of 121 UK life science organisations that have signed the Concordat.



Charlotte Cook, a PhD student in Dr Pip Beard's Large DNA Viruses Group whose studies are also part-sponsored by MSD Animal Health, was awarded

the *In Vivo* Skills Award from BBSRC UKRI. The £15,000 funding will provide Charlotte with the opportunity to learn new skills essential in progressing lumpy skin disease research.



The animal services poultry team: **Katie Harris, Rachel New, Billy Matthews, Jess Want and Paul Smith**, won best poster prize at the Institute of Animal

Technology (IAT) Congress 9-12 April 2019 for their poster 'Refinement: Promoting Gallus Gallus welfare in an experimental poultry unit'. Katie Harris accepted a cheque of £250 on behalf of the team.



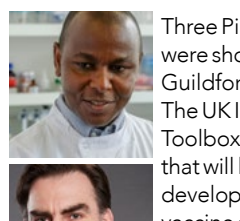
Pirbright Science Advisory Board member **Dr Samuel Thevasagayam** received the prestigious 'International Award' from the

Royal College of Veterinary Surgeons (RCVS). The award recognises veterinary surgeons, nurses and laypeople who have worked internationally to improve animal health and welfare, veterinary standards and education in line with the RCVS mission.



Professor Venugopal Nair OBE, head of the Viral Oncogenesis Group at Pirbright, and his collaborators

in the UK-China Centre of Excellence for Research on Avian Diseases (CERAD), were shortlisted nominees for the Newton Prize for their work establishing the network. CERAD promotes research for enhancing sustainable growth of the poultry industry by preventing major diseases that cause significant economic losses and animal welfare issues.



Three Pirbright projects were shortlisted for the 2019 Guildford Innovation awards: The UK Immunological Toolbox (UK-ITB); research that will lead to the development of a Nipah virus vaccine and a new, non-invasive method for detection of foot-and-mouth-disease virus (FMDV) using a novel field sampling method. **Dr William Mwangi, Professor Simon Graham and Emma Brown** attended the awards as project representatives.



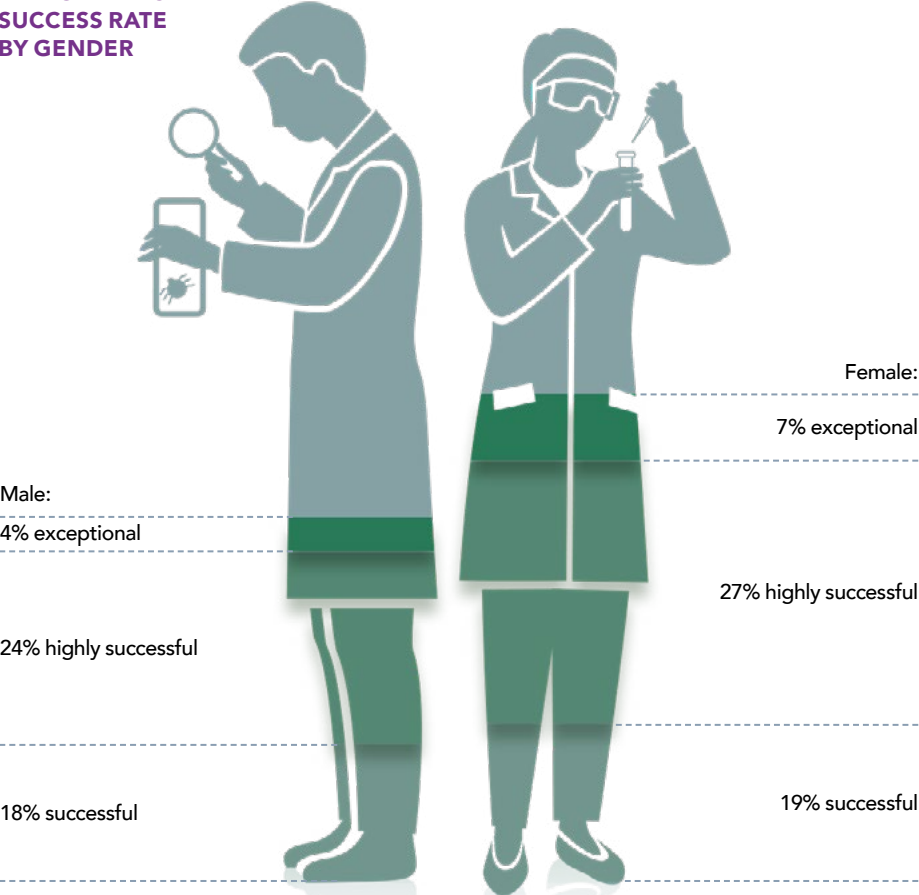
Dr Andrew Broadbent and **Dr Amin Asfor** were shortlisted in the 2019 BBSRC Innovator of the Year Competition. Dr Broadbent, Institute Fellow and group leader in birnaviruses, was shortlisted for his work on reducing the need for live chickens in research while Dr Asfor's work on a test for FMDV vaccine effectiveness was also recognised.

This confocal microscope image of infectious bronchitis virus (IBV) infected *ex vivo* chicken tracheal organ culture ring taken by Dr Helena Maier was selected as one of the winners in the Vector Laboratories 2019 photo contest. IBV associated dsRNA is shown in red, the cellular cytoskeleton component tubulin in green and DNA in the nuclei of cells in blue. Cilia on the tracheal epithelium can be seen as green "hairs" on the luminal surface

DEVELOPING OUR CULTURE AND WORKFORCE

Pirbright's success is built on the foundations of world-class scientists and our specialised engineering, health and safety and biosafety experts, as well as professional services. Our community of staff, students and visiting scientists come from around the world, reflecting the Institute's global reach.

PERFORMANCE SUCCESS RATE BY GENDER



CELEBRATING DIVERSITY

The Institute welcomed 59 new starters last year, 30 in science roles and 29 in operational roles. Successful grant applications drove research recruitment, whilst a number of existing staff were successful in securing promotion through Pirbright's Personal Promotion Scheme. Of those promoted, 73 percent were female. The Institute also welcomed a new member to the Senior Leadership Board, Helen Watts, as Director of Finance and Company Secretary.

Pirbright currently holds bronze status under the Advance HE Athena SWAN Charter. We have recently reformed our Equality, Diversity and Inclusion (EDI) Committee, to increase the diversity of members and we are renewing the focus to create a fully inclusive culture. We continue to support equality through fair pay, benefits and opportunities and are confident that men and women are paid equally for doing the same job at the Institute. However, a greater proportion of men

than women hold senior roles at the Institute creating a gender pay gap and we are working hard to address this imbalance. In 2019 there was a reduction in the mean pay gap from 16.5 percent in 2018 to 14.2 percent. The mean pay gap is the difference between the average hourly earnings of men and women. The median pay gap, i.e. the difference between the midpoints of hourly earnings of men and women, has reduced from 16.1 percent in 2018 to 8.1 percent in 2019.

LOOKING AFTER OUR PEOPLE

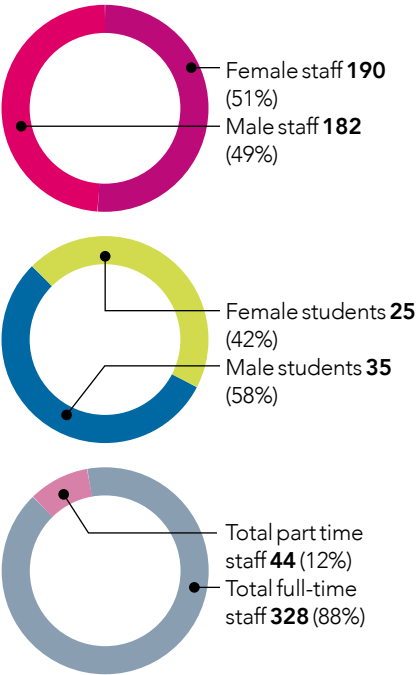
Further initiatives to continue to improve working conditions at the Institute include a staff and student survey that garnered a response rate of 66 percent. The percentage of positive scores in the survey increased from 58 percent to 63 percent. A series of focus groups gained further insights and feedback received towards action planning to make the Institute an even better place to work and study. A new Mentoring Scheme is also supporting our aims to encourage more women into higher level roles at the Institute.

Pirbright has delivered a range of wellbeing initiatives during the year to support both the physical and mental wellbeing of our staff and students, particularly as staff work from home during the COVID-19 pandemic.

We are continually striving to provide a holistic environment for our employees that will enable them to fulfil their personal and professional goals and enhance their ability to drive the Institute's essential, world-leading research. Some of these initiatives have been impacted in 2020 because of COVID-19 but we have created online activities to support wellbeing while people work from home and additional support as they return to site.

GENDER BREAKDOWN

Total Students and Staff **432**
Total Staff **372**/Total Students **60**



WORLD CLASS EXPERTISE

Pirbright requires world-class researchers and support staff to deliver our cutting-edge research, diagnostics and surveillance. We achieve this through recruitment of top talent from around the world and investment in our staff and students.



HELEN WATTS

Helen joined the Institute in September 2019 as Director of Finance and Company Secretary. Her remit covers all aspects of the Institute's finances as well as managing the IT and procurement functions. Helen is a fellow of the Institute of Chartered Accountants for England and Wales (ICAEW) and has extensive experience of managing finance functions in private and public/not-for-profit sectors, including world leaders in the marine industry, and British Institutions. Helen believes strongly in providing customer focused, timely information to help the organisation make well informed decisions.



PROF JOHN HAMMOND

John leads the Institute Strategic Programme Grant for host responses to viral disease and is head of the Immunogenetics Group, whose research focuses on studying the genetics of livestock with a view to developing disease resistant animals. John's group also leads on new flagship ventures such as the Bill & Melinda Gates Foundation-funded Livestock Antibody Hub and The UK Immunological Toolbox website resource. This year John gained a promotion through the internal Personal Promotion Scheme, which was granted on scientific review and interview by a panel of internal and eminent external stakeholders.

FELLOWSHIP SUCCESS

The continued success of Pirbright's science Fellowship scheme has seen three Research Fellows promoted to Group Leaders this year. In particular, the Fellowship scheme has proved an exceptional way to foster female scientists, accounting for 57 percent of fellows promoted to Group Leader at the Institute since 2015.



Research Fellows Dr Chris Netherton, Dr Helena Maier and Dr Andrew Broadbent, have been promoted to Group Leaders

DR CHRIS NETHERTON

Chris has studied African swine fever virus (ASFV) at the Institute since 1997 as a PhD student, postdoctoral researcher, Research Fellow and now Group Leader. Chris' research has evolved to encompass the study of the immune response *in vitro* and *in vivo*, as well as vaccine development, particularly the development of subunit vaccines against ASFV. He aims to concentrate on both fundamental aspects of virus research alongside advances in vaccine development over the coming years, with the goal of making a positive impact on the global effort to control African swine fever.

DR HELENA MAIER

Originally joining the Institute for a postdoctoral position, Helena was subsequently appointed as a Research Fellow in January 2016 following the award of a BBSRC UKRI grant as principal investigator and has now been promoted to Group Leader. The focus of her group's research is the identification of coronavirus-host cell interactions that are critical for virus replication and required by multiple coronaviruses. Using this information, it will be possible to develop novel control strategies that would be applicable to multiple, if not all, coronaviruses including COVID-19.

DR ANDREW BROADBENT

Andrew joined Pirbright as a Research Fellow in 2014 to set up his own group with a focus on immunosuppressive viral diseases of poultry, specifically infectious bursal disease virus (IBDV). His research aims to evaluate the causes and consequences of immunosuppression in livestock, particularly that caused by IBDV in chickens, and its contribution to the spread of zoonotic infections that are transmitted between animals and humans, with a view to improving disease control. In the process of this work he has developed new systems for reducing the need for animals in research.



ANA CORRAL CAYON

Ana is the Head of Quality and Organisation and is leading on Project Improve, the Institute's initiative designed to assess the management structure at Pirbright and improve quality and governance, as well as other aspects. She is also leading the implementation of the COMAH Major Hazard Leadership across the Institute and the introduction of a new laboratory information management system (LIMS) across the reference laboratories and disinfectant testing functions. Ana gained a promotion via the internal Personal Promotion Scheme, which was granted on review by a panel of internal and external stakeholders.



INVESTING IN OUR PEOPLE

Providing staff, students and external partners with the right training, whether in research or operations, is vital to ensure that everyone can reach their potential and contribute to the Institute's mission.

Students from the University of Oxford Interdisciplinary Bioscience Doctoral Training Partnership programme in the atrium of The Plough Building during a visit to Pirbright

OUR STUDENT COMMUNITY

Pirbright's vibrant student community is comprised of more than 60 PhD students, MSc research project students, BSc year-in-industry students and undergraduate veterinary students. A student's PhD studies provide so much more than just bench research skills; our transferable skills training courses, combined with a careers day and the chance to attend placements off-site with other institutions or companies, exposes them to the many different avenues available after graduation.

The funding landscape for PhD studentships has changed significantly in recent years, with Research Council funding now being handled by Doctoral Training Partnerships (DTP) rather than by individual institutions. Pirbright also provides internal funding for studentships but seeks matching funding from university and industrial collaborations, grants, and established partnerships, such as with the University of Oxford, Friedrich-Loeffler-Institut (FLI) and the Kenyan Medical Research Institute (KEMRI).

OPPORTUNITIES FOR EARLY CAREER SCIENTISTS

Two seed funding grants were awarded to Pirbright to help the Institute's scientists get experience of working in the biotech industry, fostering vital partnerships that will enhance our ability to translate basic science research into viable, market-ready vaccines and anti-viral therapies:

The National Productivity Investment Fund awarded Pirbright £25,000 through BBSRC UKRI for the development of entrepreneurial and innovation skills in early career researchers. Pirbright received £75,000 to

follow on a previous Flexible Talent Mobility Award (FTMA) from BBSRC UKRI. The award facilitates the movement of scientists between industry and academia with the goal of developing transferable skills and knowledge. Both the NPIF and FTMA support the UK's Industrial Strategy.

STAFF AND STUDENT DEVELOPMENT



Pirbright's students hit the track for some go karting action at a social in 2019. Supported by Academic Affairs and Training, student socials are a fantastic way to bring students at the Institute closer together

Pirbright ran 52 courses in 2019/20 to give staff and students specialised and transferable skills. Specialist courses were also provided, including mentor training, which is available to all staff, supporting the Mentoring Scheme. Women make up 48 percent of all our mentors and over 50 percent of overall mentoring participants. Last year also saw the introduction of mandatory Active Bystander training in support of our Equality, Diversity and Inclusion strategy. The Pirbright Learning Development Team has also provided first aid courses, mental health first aid training and the sponsorship of two MSc students in virology at the University of Surrey.

Apprenticeships are a growing programme at Pirbright and we have seven full time apprentices in a variety of roles (pictured below) and six full-time staff undertaking an apprenticeship programme as part of their further education development.



Pirbright apprentices Kian Coen-D'Arcy, Macey Bhamra, James Gaskell, Lucy Drudge, David Selby, Rebecca Evans and Zak Croucher

SHARING PIRBRIGHT'S EXPERTISE



• In January 2020 Pirbright launched Project SPiRE (Sharing Pirbright's Expertise) which is an initiative designed to bring its internationally recognised science and training to a global audience through online and instructor-led courses. The five-year project will take advantage of opportunities identified by a comprehensive market assessment of the training Pirbright could provide in a post-Brexit landscape.

• A modular, blended-learning approach that includes face-to-face, hands-on, e-learning and virtual reality methods, will be used to maximise the flexibility of training courses in high containment engineering and biosafety. This will operate alongside e-learning development for the full range of vesicular and non-vesicular exotic viral diseases, to complement the current training provided through expertise within the reference laboratories at the Institute.

• Project SPiRE will be used to provide new skills and training to our workforce, as well as people around the world, and provide Pirbright with an enhanced international reputation as a centre of expertise and training.

PIRBRIGHT'S PERFORMANCE

FROM 2020/21 PIRBRIGHT'S PRINCIPAL OBJECTIVES ARE:

- 1 To continue a world leading research programme by publishing ground-breaking scientific research, winning research funding and recruiting and retaining the brightest and the best staff and students
- 2 To further develop the Pirbright long term vision of scientific research with impact, in particular enhancing our collaborations with agencies to improve disease control in low and middle-income countries
- 3 To continue to implement the fully funded development programme to provide additional animal research facilities to study high consequence pathogens. These facilities will further enhance the Institute as a unique National and International Capability
- 4 To develop strong strategic collaborations with other global centres of excellence to support the Institute Strategic Programme Grants
- 5 To diversify our funding through greater collaboration with international partners via various new funding opportunities
- 6 To maintain our high containment infrastructure, to manage the safety, security, environment and quality risks from our work with high consequence pathogens, and to provide training and expertise to external partners in these areas.

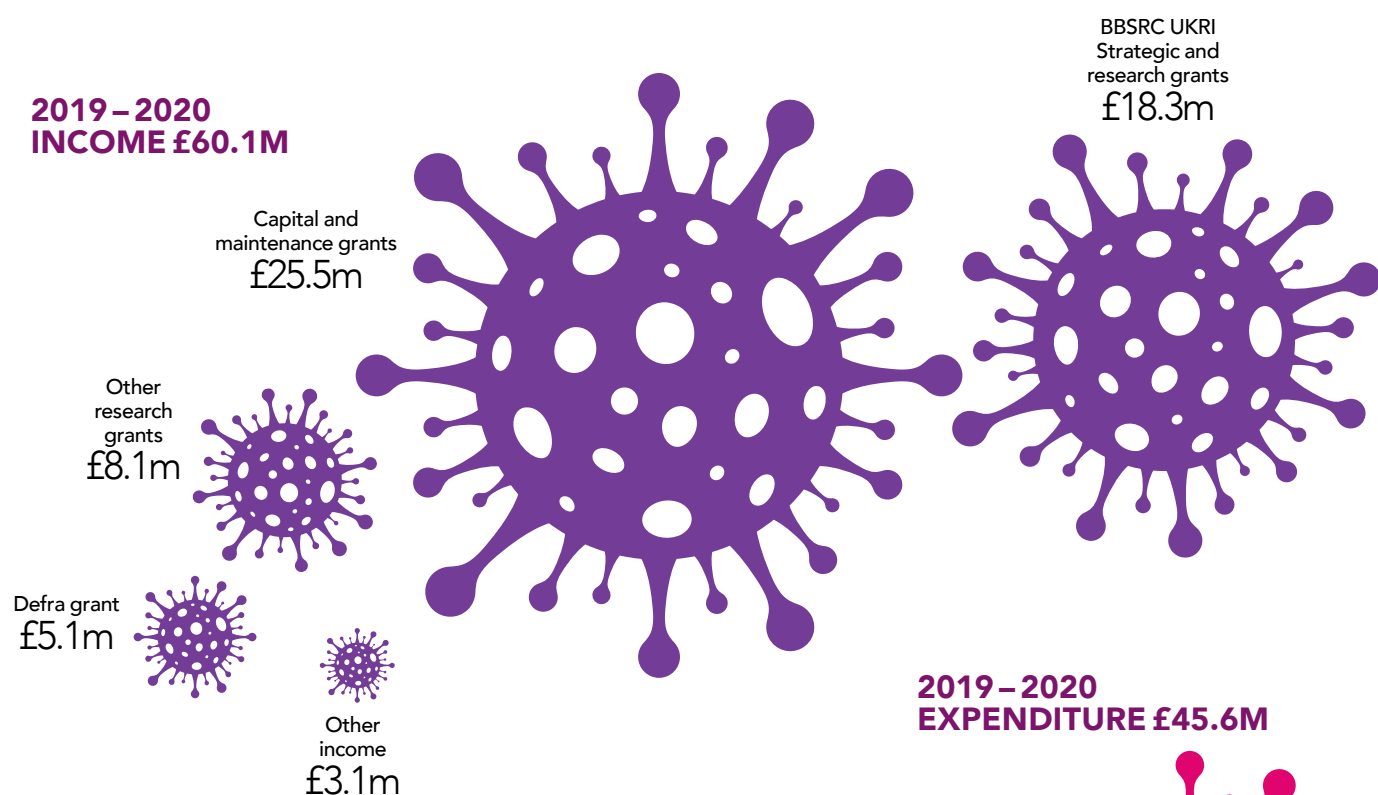
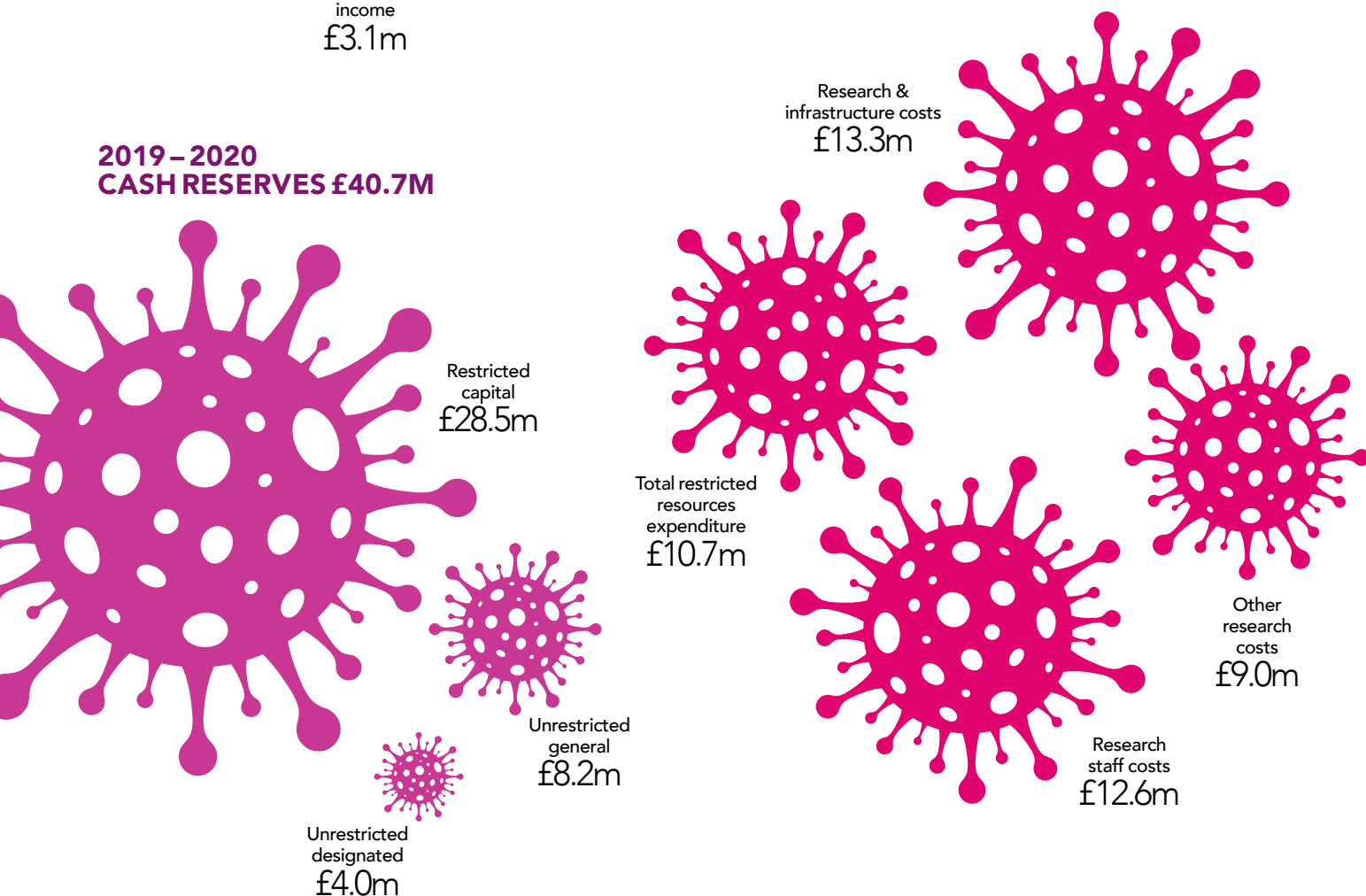
PIRBRIGHT'S KEY PERFORMANCE INDICATORS ARE:

- Publications in relevant scientific journals; being one paper per postdoctoral scientist per year
- Success rates for research grant proposals over the next five years; 35 percent in terms of successful applications and 30 percent in terms of the value of the awards
- Recruitment and retention of high-quality staff and students; to achieve less than 15 percent annual staff turnover within five years
- Annual research income of £11 million externally won funding each year over the next five years
- Compliance with all statutory requirements as a Major Hazard site, close cooperation with regulators, and conformity to applicable standards such as ISO/IEC 17025.

OUR PERFORMANCE AGAINST KPIS 2019-20:

- We published 118 papers in a range of high-impact journals achieving an average of 0.89 publications per post-doctoral scientists in the year
- We had 45 percent successful grant applications and 46 percent in terms of value of the awards
- At the end of March 2020, the rolling annual average voluntary staff turnover figure was 14.93 percent, just beating the 15 percent target
- The annual grant income for 2019-20 was £18.1m, exceeding the £11m target by 65 percent
- Pirbright is subject to an HSE Major Hazard Intervention Plan comprising of a minimum of four scheduled HSE inspections each year, to monitor compliance with its licence under the Specified Animal Pathogens Order (SAPO) 2008 and with regulations under the Health & Safety at Work etc. Act 1974. No enforcement notices were issued, or enforcement action taken by HSE against Pirbright in 2019/20, and all HSE recommendations were complied with. Pirbright reference laboratories are accredited to ISO/IEC 17025 and are subject to annual surveillance audit by UKAS. Accreditation was maintained in 2019/20 with no major findings from the surveillance audit. No other enforcement was applied to Pirbright in 2019/20 by any other regulator or audit body on any aspect of biorisk, health & safety, security, environment, quality or wider compliance.

FINANCIAL CHARTS

**2019 – 2020
INCOME £60.1M****2019 – 2020
EXPENDITURE £45.6M****2019 – 2020
CASH RESERVES £40.7M****INCOME**

Total incoming resources amounted to £60.1m (2019: £47.8m). Investment in tangible fixed assets in the year totalled £21.4m (2019: £13.0m). This was substantially funded by grants from the Institute's principal sponsor Biotechnology and Biological Sciences Research Council part of UK Research and Innovation (BBSRC UKRI), Defra and other grant awarding bodies. The change relates to both an increase in capital funding (£12.6m) and decrease in non-capital income being £34.9m in 2020 compared to £35.2m in 2019.

EXPENDITURE

Recurrent expenditure for the year amounted to £45.6m (2019: £46.2m), a small reduction. Staff costs accounted for £17.1m (37%) (2019: £16.3m; 35%) of expenditure. The rise in staff costs from 2019 relates to the pay award for the year.

CASH AND TERM DEPOSITS

Cash at March 2020 was £40.7m (2019: £30.5m). Pirbright deposits its cash with UK registered financial institutions. Investment income from cash deposits in the year was £290k (2019: £208k).

GRANT PROPOSALS

During the year, Pirbright researchers submitted grant proposals with a sponsor value of £40m (2019: £32.0m) and were awarded grants with a value of £19m (2019: £12.6m).

GOING CONCERN

The Trustees have reviewed whether it is appropriate for the financial statements to be prepared on a going concern basis. The Institute has in principle received its five-year strategic grant funding from BBSRC UKRI, £15m per annum. This is split in two; the value of the first part of the award started on 5 April 2017 and ran to March 2020, there is a further provisional award for the subsequent two years to March 2022, the first year of which has now been agreed. The Institute has now been advised by BBSRC UKRI that the grant period will be extended for a sixth year to March 2023. This source of confirmed funding, the consistent performance of attracting income from other funding bodies, the successful occupation of new laboratory facilities and

the development of a business plan that is built on an income stream that is very likely to be achievable, provides a high degree of confidence of future financial security. The Trustees are not expecting any change to the Core Capability Grant (CCG) now that BBSRC has merged into UKRI. Having considered the risks in respect of future funding, financial forecasts for the period to March 2023 and the level of reserves, the Trustees have concluded that it remains appropriate to prepare the financial statements on a going concern basis.

NET MOVEMENT IN RESERVES

The Pirbright Institute recorded a net decrease in unrestricted reserves of £1.0m. (2019: £0.8m increase) £1.6m of this decrease was in the designated reserve with the general reserve increasing by £0.6m. Due to the phasing of the Pirbright Development Programme, the restricted reserves increased by £15.5m. (2019: £0.9m) Capital expenditure in the year was £21.4m (2019: £13.0m). There has been an ongoing major development of the Pirbright site which has resulted in building new laboratory facilities and providing additional state of the art science equipment.

RESERVES POSITION

Total Institute reserves increased by £14.5m in the year to £298.0m (2019: £1.7m to £283.5m). Restricted reserves increased by £15.5m (2019: £0.9m) to £289.8m (2019: £274.3m), of which £289.8m relates to capital reserve in connection with funding received from BBSRC UKRI (2019: increased by £0.9m to £274.3m). Unrestricted reserves decreased by £1.0m (2019: £0.8m increase) in the year to £8.1m (2019: £9.1m), of which £3.0m relates to a designated reserve to support ongoing non-operational activity and £5.1m to general reserves.

RESERVES POLICY**Unrestricted funds**

It is the policy of the Trustees to ensure the General Fund in the Unrestricted Reserves reaches £4.5m by the end of the current business plan cycle being 2021/22 to enable the Institute to manage fluctuations in income and unforeseen cost pressures. At 31 March 2020 unrestricted general funds showed a surplus of £5.1m (2019: surplus of £4.5m) reaching the target as set by the Trustees. It is anticipated that over the coming years it will be possible for the Institute to undertake further development of science activity to enhance the overall sustainability and improvement of

activity. The redevelopment of the site will also provide the world class facilities required to ensure the Institute is best placed to succeed in future grant submissions.

DESIGNATED FUNDS

The use of the unrestricted designated fund as set out in note 15 comprises of sums set aside for specific purposes as decided by the Trustees to support ongoing non-operational activity and the continued development of the Pirbright site in support of the construction programme.

RESTRICTED NON-ENDOWMENT FUNDS

The Institute has been undertaking a significant building programme within the Pirbright site for which funding has been received from BBSRC UKRI. The funding of this programme is via grants which are held within the restricted funds and comes to a total of £284.8m. This funding is solely and specifically granted for the purpose of the building programme hence the inclusion within the restricted fund and mostly this represents the value of the buildings which have been constructed.

FUNDRAISING ACTIVITIES

Section 162a of the Charities Act 2011 requires charities to make a statement regarding fundraising activities. Although we do not undertake direct fundraising from the general public, the legislation defines fundraising as "soliciting or otherwise procuring money or other property for charitable purposes". We have received no such income during the year.

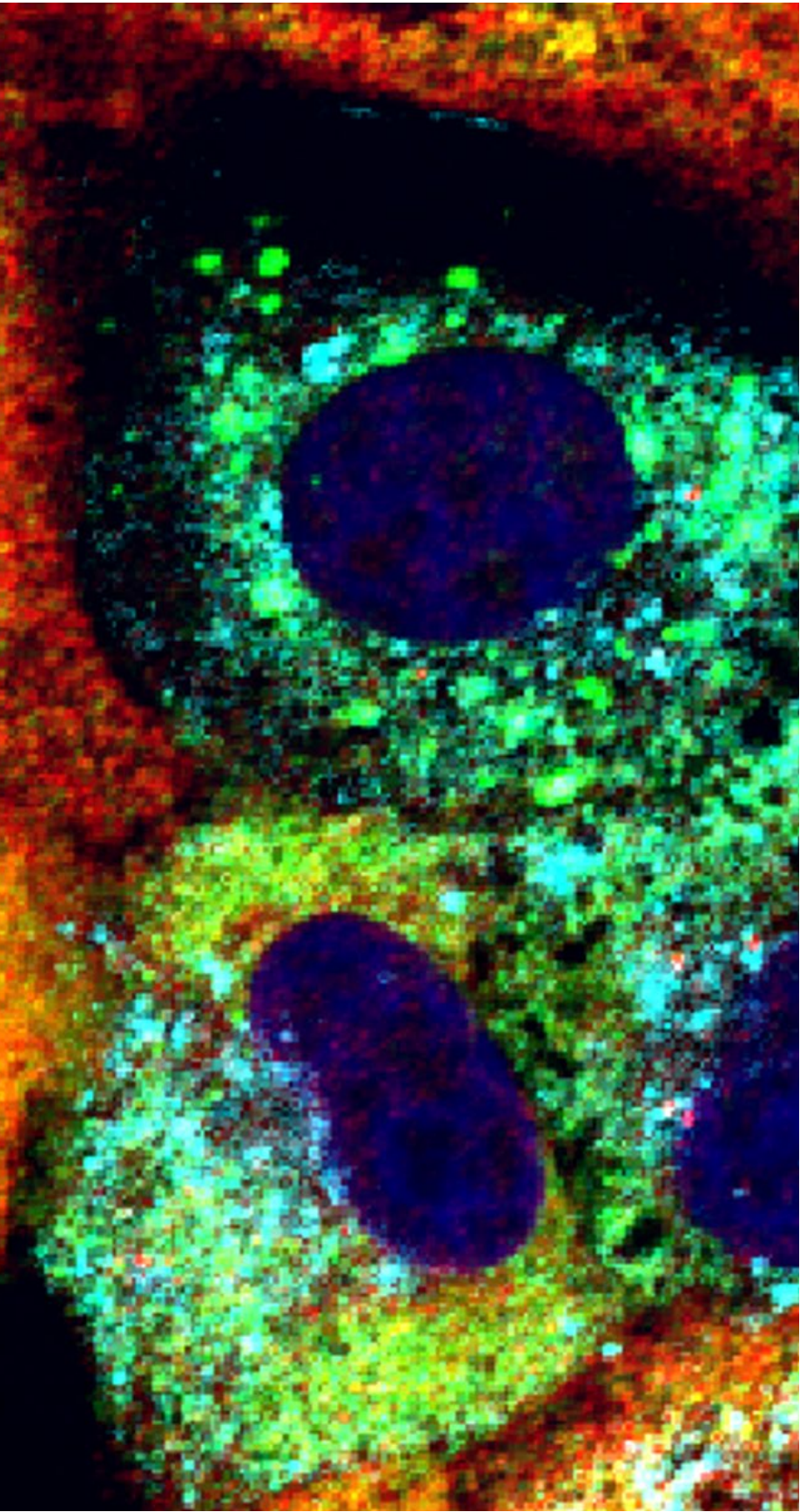
RISK MANAGEMENT

Pirbright's risk management system is broadly aligned to ISO 31000, ISO Management Systems Standard Annex L and HM Treasury Orange Book. A Risk Policy is in place defining organisational approach, responsibilities, risk criteria and assessment methodology, governance and applying a High Reliability Organisation and Human Factors model. A risk & opportunities register is maintained that identifies and analyses operational, continuity and strategic risks, and delineates treatment of those risks. A range of insurance policies are in place to transfer financial risk so far as appropriate and practicable.

An internal audit programme provides stakeholders with objective evidence of conformity to systems and effective management of risk. A training programme supports this. A Risk & Assurance Directorate provides specialist practitioners to develop and support the risk management system and processes. Senior Leadership Board takes oversight of risk management by regular review of risk & opportunities register, of relevant leading and lagging performance indicators and benchmarks, and of findings from audits and investigations. The Board of Trustee Directors has established sub-committees to take similar oversight.

Key risks are summarised in the table on the right:

An image of infectious bronchitis virus (IBV) taken by Pirbright researchers in their paper 'Infectious Bronchitis Virus Regulates Cellular Stress Granule Signaling, *Viruses* 2020, 12(5), 536. Nuclei in blue, puromycin in red and IBV in cyan.



RISK	CONTEXT	CONTROL / MITIGATION
BIOSAFETY (UNINTENTIONAL RELEASE OF OR EXPOSURE TO HIGH CONSEQUENCE PATHOGEN)	Pirbright is classified by the Health & Safety Executive (HSE) as a Major Hazard site, because release of the high consequence viral pathogens of livestock animals that the Institute works with (such as foot-and-mouth disease virus) could cause a serious disease outbreak, leading to destruction of many animals, extensive national disruption and severe economic loss.	Physical, engineering, operational and management measures for biological containment in compliance with relevant UK legislation (Specified Animal Pathogens Order 2008, Control of Substances Hazardous to Health Regulations 2002, Genetically Modified Organisms (Contained Use) Regulations 2014) and associated Approved Codes of Practice and guidance, in alignment to ISO 9001, ISO 35001 and ISO 45001. Also, HSE Major Hazard Intervention Plan, and staff cohort of competent biorisk advisers.
BIOSECURITY (DELIBERATE RELEASE OF HIGH CONSEQUENCE PATHOGEN)	Some of the pathogens are also zoonotic, which means they can infect humans and cause serious illness.	Physical, operational and management measures for security in conformity with requirements of the UK National Counter Terrorism Security Office, with oversight by regional Counter Terrorism Security Adviser, 24/7/365 guard force, background screening of new starters, and multiple layers of physical security.
QUALITY	As well as being a leading research institute, Pirbright provides diagnostic and surveillance reference laboratories for a range of pathogens for the UN Food & Agriculture Organization (FAO) and the World Organisation for Animal Health (OIE), and is funded by BBSRC UKRI and Defra as a National Capability to provide diagnostic capacity in the event of national disease outbreaks. Quality of Pirbright's scientific output is therefore critical, and FAO, OIE and UK Government require the reference laboratories to be accredited to the ISO/IEC 17025 international quality standard.	Accreditation of the reference laboratories to ISO/IEC 17025, by the UK Accreditation Service (a UKAS accredited testing laboratory No 4025), development and implementation of a quality management system across the Institute, internal audit programme, and alignment to ISO 9001 and other relevant standards in key operational areas for better support of the reference laboratories.
ANIMAL WELFARE	Research with animals is an integral part of the research programmes at Pirbright and is carried out to UK standards of ethics and animal welfare, which are the most stringent in the world, addressing this critical reputational risk.	Physical, operational and management measures for animal welfare in compliance with relevant UK legislation (Animal Scientific Procedures Act 1986) and associated Approved Codes of Practice and guidance, oversight by UK Home Office, application of 3Rs (Replace, Refine, Reduce) and ARRIVE guidance (Animal Research: Reporting <i>In Vivo</i> Experiments).
CYBERSECURITY	Pirbright also faces the cybersecurity, continuity, people and financial risks that most organisations must manage, and the potential consequences of these are amplified because of possible effects on biological and quality risks, e.g. a power failure could cause biological containment plant to fail, difficulty with recruitment could lead to an inadequate staff skill base, insufficient budget for planned preventative maintenance could lead to lower reliability of biological containment plant or scientific equipment.	Technical countermeasures and management systems for cybersecurity in conformity with requirements of UK National Cyber Security Centre including Cyber Essentials Plus, and HSE OG86 cybersecurity requirements for safety critical control systems, segregation of critical resource from network, and staff training.
CONTINUITY		Incident and crisis management plans, business continuity planning in alignment with ISO 22301, backups and contingencies for critical services and supplies, contingency plans for the reference laboratories for disease outbreaks, and all plans regularly tested by exercises.
PEOPLE		Recruitment & retention and responsibility allowances, training & development programme, career pathways, performance and personal development reviews.
FINANCIAL		Rigorous systems for financial control and monitoring, risk management, processes and support to facilitate preparation, submission and management of competitive funding grants, commercial business development programme and anti-fraud policy.
BREXIT	Brexit is a significant risk as EU funding of the reference laboratories has ended, EU sources of research funding are no longer be available, collaborations with EU partners may be jeopardised, EU nationals on staff may leave, and the UK economic situation may be adversely affected.	Factored into business planning through planned increases in income from competitive funding sources, provision of support for staff who are EU nationals, and political and strategic mitigations.
INFLATION	Inflation is another significant risk as core funding 2018-2022 does not include an allowance for inflation. Brexit, UK trade deal negotiations and the COVID-19 pandemic are all a threat to economic conditions and the funding landscape, including potential extension of the 2017-2022 funding period.	Factored into business planning including planned increases in income from competitive funding sources, and savings from improved procurement and 'spend-to-save' capital works.

STRUCTURE, GOVERNANCE AND MANAGEMENT

MEMBERS

Members of the Institute are as follows:

Chair of the Trustee Board
Chair of the Science Advisory Board BBSRC UKRI
National Farmers' Union
Royal College of Veterinary Surgeons

ORGANISATION AND GOVERNANCE

The Pirbright Institute is a company limited by guarantee and a registered charity. The Annual Report provides information for legal purposes of the charity, its business activities and its main achievements. The financial statements have been prepared in accordance with the Charities Act 2011, the Companies Act 2006, the Memorandum and Articles of Association and Accounting and Reporting by Charities: Statement of the Recommended Practice applicable to charities preparing their accounts in accordance with Financial Reporting Standards applicable to the UK and Republic of Ireland (FRS102), effective 1 January 2015.

THE BOARD OF TRUSTEES AND ITS INTERESTS

The directors of the Trustee Board during the year were:

Professor John Stephenson – Chair
Professor Vince Emery
Ian Bateman
Ian Black
Jon Coles
Roger Louth
Dr Vanessa Mayatt OBE
Dr Sandy Primrose
Sir Bertie Ross
Professor David Rowlands (resigned 30 March 2020)
Jane Tirard

Trustee Directors are appointed by the existing Trustee Directors for a period of up to three years, when they are eligible for re-appointment.

The Trustee Board has established three committees to support it in its work: the Finance and Audit Committee, the Risk and Assurance Committee and the Nomination and Governance Committee. The Trustee Board and its committee structure work closely with the Director and senior management of the Institute and are responsible for corporate governance and for the Institute's scientific strategy and strategic plans.

The Trustee Board has appointed a Scientific Advisory Board, to provide advice and recommendations to the Trustee Board and the Director regarding the scientific strategy and activities of the Institute.

TRUSTEES' INDEMNITY INSURANCE

The Institute maintains liability insurance for its Trustee Board, with an annual aggregate cover limit for all claims against them in that capacity. The Trustees have also been granted a qualifying third party provision under section 233 of Companies Act 2006. Neither the Institute's indemnity nor insurance provides cover in the event that a Trustee Director is proved to have acted fraudulently or dishonestly. The premium and related costs in respect of this policy were £14,924, (2019: £8,288). The Trustees are satisfied they have complied with their duty in section 4 of the Charities Act 2011 to have due regard to public benefit guidance published by the Charities Commission. Based on this guidance, and as described in the Trustees' Report, the Trustees believe the activities of The Pirbright Institute to be charitable in nature.

TRAINING OF TRUSTEES

The Institute continually reviews its practices for induction and ongoing Trustee training. Trustees are encouraged to attend appropriate external training events where these will facilitate the undertaking of their role.

SENIOR LEADERSHIP BOARD

The Trustee Board consider that the Senior Leadership Board (SLB) is accountable for Institute strategy, risk mitigation and governance of day-to-day operational delivery, comprising the Institute Director and the Directorate heads; namely Director of Risk and Assurance, Director of Capability and Director of Finance and Company Secretary. The remuneration and benefits of the SLB is based on the agreed and recognised salary banding for the Institute and reviewed annually.

EQUALITY, DIVERSITY AND INCLUSION (EDI)

Pirbright's success is built on the foundations of world-class scientists who are experts in their field and our unique high containment research facilities require specialised engineering, health and safety and biosafety expertise, as well as professional services. Our community of staff, students and visiting scientists are drawn from across the world and bring a richness of diversity which enhances the Institute.

Pirbright currently holds bronze status under the Advance HE Athena Swan Charter and we are working on our next application in 2021. We have recently reformed our ED&I Committee, with representation from all levels and functions, with increased diversity in its membership, and a renewed focus on creating a fully inclusive culture. Our staff survey in 2019 produced an overall positive score of 70% across ED&I indicators, with 8% negative. We undertook a series of focus groups to identify underlying issues and have implemented an

Employee Engagement Action plan as a result of those focus groups, including a section dedicated to ED&I and Wellbeing. A new Mentoring Scheme is supporting our aims to encourage more women into higher level roles at the Institute.

We continue to support equality through fairness of pay, benefits and opportunities and are confident that men and women are paid equally for doing the same job at the Institute. However, the reality is that a greater proportion of men than women in senior roles creates a gender pay gap across our Institute and we are working hard to address this imbalance. In 2019 there was a reduction in the mean pay gap from 16.5 percent in 2018 to 14.2 percent. The mean pay gap is the difference between the average hourly earnings of men and women. In addition, the median pay gap, i.e. the difference between the midpoints of hourly earnings of men and women, has reduced from 16.1 percent in 2018 to 8.1 percent.

The Institute has delivered a range of wellbeing initiatives during the year to support both the physical and mental wellbeing of our staff and students. This supplements a vibrant schedule for sports and social activities, including the annual rounders event, regular running clubs, yoga, pilates, gardening club and quiz nights.

During the COVID-19 crisis, we put staff and student safety and wellbeing at the centre of all our decisions. We ensured those with underlying health conditions left site immediately and continue to monitor the wellbeing of staff, including using occupational health professionals for advice. We provided guidance to managers on how to manage teams remotely, additional support for staff on looking after themselves and their mental health, provided a dedicated mailbox for staff to raise queries, which was responded to daily, undertook regular staff briefings through virtual media and introduced a weekly newsletter.

TRADES UNION ENGAGEMENT

The Institute has formal trade union recognition for employees on BBSRC terms, which is c25% of our employees. Quarterly meetings are held to discuss key matters with the lead negotiator and interim meetings are held with the on-site union representative. There is union representation on key Committees, including Health & Safety, ED&I, Pay & Policy and Redeployment. The relationship is viewed as constructive and positive.

RELATED PARTIES

The Institute's subsidiary undertaking, Avrico Limited, last traded in 2003 and is currently dormant. Avrico Limited was formed as part of the Institute's role in the 2001 UK foot-and-mouth disease outbreak and provided diagnostic and testing services to Defra. Genomia Management Limited was formed on 16 April 2004 and is also a company limited by guarantee. The company was established by way of grants from the Department of Innovation, Universities and Skills and the European Regional Development Fund. The company manages the Genomia Fund the objective of which is to assist in the development of research output from the members into commercially realisable opportunities. The Institute has equal membership in this company with The Roslin Foundation, Moredun Research Institute, Rowett Institute of Nutrition and Health and Scotland's Rural College (SRUC).

The Trustees who are also Directors of the charitable company for the purposes of company law are responsible for preparing the Trustees' Report incorporating the Strategic Report in accordance with applicable law and regulations.

Company law requires the Trustee Board to prepare financial statements for each financial year. Under that law the Trustee Board has elected to prepare the financial statements in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards and applicable laws), including FRS102 (the Financial Reporting Standard applicable in the UK and Republic of Ireland). Under company law the Trustee Board must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the charitable company and the incoming resources and application of resources, including the income and expenditure, of the charitable company for that period.

In preparing these financial statements, the Trustee Board is required to:

- select suitable accounting policies and then apply them consistently;
- observe the methods and principles in the Charities SORP (FRS102);
- make judgments and accounting estimates that are reasonable and prudent;
- state whether applicable UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements;
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charitable company will continue in business.

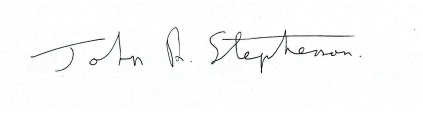
The Trustee Board is responsible for keeping adequate accounting records that are sufficient to show and explain the charitable company's transactions and disclose with reasonable accuracy at any time the financial position of the company and enable them to ensure that the financial statements comply with the Companies Act 2006. It is also responsible for safeguarding the assets of the charitable company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Trustee Board confirms that:

- so far as each Trustee Director is aware, there is no relevant audit information of which the charitable company's auditor is unaware; and
- the Trustees have taken all steps that they ought to have taken to make themselves aware of any relevant audit information and to establish that the auditor is aware of that information.

During 2018 the Trustees undertook an retendering of the appointment of the external auditor and as a result BDO were successful and appointed in January 2019.

The Report of the Trustees incorporating the Strategic Report was approved and signed on behalf of the Trustee Board.



Professor John Stephenson
Trustee Director

Approved by the Board of Trustees
on 22 July 2020

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF THE PIRBRIGHT INSTITUTE (LIMITED BY GUARANTEE)

OPINION

We have audited the financial statements of The Pirbright Institute for the year ended 31 March 2020 which comprises the principal accounting policies, the statement of financial activities, the balance sheet, the cash flow statement and notes to the financial statements, including a summary of significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including Financial Reporting Standard 102, the Financial Reporting Standard applicable in the UK and Republic of Ireland (United Kingdom Generally Accepted Accounting Practice).

In our opinion, the financial statements:

- give a true and fair view of the state of the Charitable Company's affairs as at 31 March 2020 and of its incoming resources and application of resources for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Companies Act 2006.

BASIS FOR OPINION

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report. We are independent of the Charitable Company in accordance with the ethical requirements relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

CONCLUSIONS RELATED TO GOING CONCERN

We have nothing to report in respect of the following matters in relation to which the ISAs (UK) require us to report to you where:

- the Trustees' use of the going concern basis of accounting in the preparation of the financial statements is not appropriate; or
- the Trustees have not disclosed in the financial statements any identified material uncertainties that may cast significant doubt about the Charitable Company's ability to continue to adopt the going concern basis of accounting for a period of at least twelve months from the date when the financial statements are authorised for issue.

OTHER INFORMATION

The other information comprises the information included in the Annual Report and Accounts, other than the financial statements and our auditor's report thereon. The other information comprises the Trustees' Report. The Trustees are responsible for the other information.

Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

OPINIONS ON OTHER MATTERS PRESCRIBED BY THE COMPANIES ACT 2006

In our opinion, based on the work undertaken in the course of the audit:

- the information given in the Trustees' Report, which includes the Directors' Report and the Strategic report prepared for the purposes of Company Law, for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the Strategic Report and the Directors' Report, which are included in the Trustees' report, have been prepared in accordance with applicable legal requirements.

MATTERS ON WHICH WE ARE REQUIRED TO REPORT BY EXCEPTION

In the light of the knowledge and understanding of the Charitable Company and its environment obtained in the course of the audit, we have not identified material misstatement in the Strategic Report or the Trustees' Report.

We have nothing to report in respect of the following matters in relation to which the Companies Act 2006 requires us to report to you if, in our opinion:

- adequate accounting records have not been kept, or returns adequate for our audit have not been received from branches not visited by us; or
- the financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of Directors' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

RESPONSIBILITIES OF TRUSTEES

As explained more fully in the Trustees’ responsibilities statement, the Trustees (who are also the directors of the charitable company for the purposes of company law) are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the Trustees determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Trustees are responsible for assessing the Charitable Company’s ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Trustees either intend to liquidate the Charitable Company or to cease operations, or have no realistic alternative but to do so.

AUDITOR’S RESPONSIBILITIES FOR THE AUDIT OF THE FINANCIAL STATEMENTS

We have been appointed as auditor under the Companies Act 2006 and report in accordance with the Act and relevant regulations made or having effect thereunder.

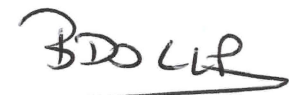
Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor’s report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is located at the Financial Reporting Council’s (“FRC’s”) website at: www.frc.org.uk/auditorsresponsibilities.

This description forms part of our auditor’s report.

USE OF OUR REPORT

This report is made solely to the Charitable Company’s members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the Charitable Company’s members those matters we are required to state to them in an auditor’s report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Charitable Company and the Charitable Company’s members as a body, for our audit work, for this report, or for the opinions we have formed.



James Aston
(Senior Statutory Auditor)

For and on behalf of BDO LLP,
Statutory Auditor Gatwick
Date: 27th July 2020

BDO LLP is a limited liability partnership registered in England and Wales (with registered number OC305127).

PRINCIPAL ACCOUNTING POLICIES

The following accounting policies have been applied consistently in dealing with items which are considered material in relation to the Institute’s financial statements.

BASIS OF ACCOUNTING

The financial statements have been prepared in accordance with Accounting and Reporting by Charities: Statement of Recommended Practice applicable to charities preparing their accounts in accordance with the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) (effective 1 January 2015) – (Charities SORP (FRS 102), the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS 102) and the Companies Act 2006. The Institute meets the definition of a public benefit entity under FRS102. Assets and liabilities are initially recognised at historical cost or transaction value unless otherwise stated in the relevant accounting policy note(s).

GOING CONCERN

The Trustees have reviewed whether it is appropriate for the financial statements to be prepared on a going concern basis. The Institute has in principle received its five-year strategic grant funding from BBSRC UKRI, £15m per annum. This is split in two; the value of the first part of the award started on 5 April 2017 and ran to March 2020, there is a further provisional award for the subsequent two years to March 2022, the first year of which has now been agreed. The Institute has now been advised by BBSRC UKRI that the grant period will be extended for a sixth year to March 2023. This source of confirmed funding, the consistent performance of attracting income from other funding bodies, the successful occupation of new laboratory facilities and the development of a business plan that is built on an income stream that is very likely to be achievable, provides a high degree of confidence of future financial security. Having considered the risks in respect of future funding, financial forecasts for the period to March 2023 and the level of reserves, the Trustees have concluded that it remains appropriate to prepare the financial statements on a going concern basis.

GROUP FINANCIAL STATEMENTS

The Institute is exempt from the requirement to prepare consolidated financial statements by virtue of section 405(2) of the Companies Act 2006 as the result of its dormant subsidiary undertaking, Avrico Limited, is not material for the purposes of providing a true and fair view. Accordingly, these financial statements present information about the Institute as an individual entity and not its group. The associated company, as detailed in note 10, has also been excluded from the consolidation on the grounds of this being immaterial to the Institute’s financial statements.

INCOME

Income comprises unencumbered grants received from research councils; grant income from collaborative, commissioned and competitively awarded research projects; income from miscellaneous charitable activities; commercial and residential rents from the letting of Institute controlled property; and interest earned on the temporary investment of surplus funds. Income is recognised when the Institute becomes legally entitled to the income and the amount can be quantified with reasonable accuracy. All core BBSRC UKRI grants are recognised as revenue in the year they are received. Grant income including research grants received in advance of conditions being met is deferred until those conditions are fully satisfied. Rental and interest income is recognised based on the period to which it relates. Capital grants are recognised in the statement of financial activities when entitlement passes, and once the criteria of certainty and measurement are met.

EXPENDITURE

Costs of charitable activities comprises costs incurred directly or in support of scientific research whether carried out in the Institute’s own facilities or in other laboratories. Raising funds represents the costs associated with trading and raising income including the Institute’s rental activities and tenant services and investments. All costs are allocated between the expenditure categories of the Statement of Financial Activities on a basis designed to reflect the use

of the resource. Costs relating to a particular activity are allocated directly. Support costs, representing the staffing and associated costs of finance, personnel and general administration in supporting the operations of the Institute, are apportioned on an appropriate basis (see note 5).

RESTRICTED NON-ENDOWMENT FUNDS

Income received by way of grants, sponsorship, donation or legacy which is directed by the provider as to be applied for specific purposes is accounted for within restricted income. Awards applied within the terms dictated by the awarding authority on the acquisition or improvement of tangible fixed assets are also accounted for within restricted non endowment funds in full. The balance of the restricted fixed asset fund is reduced by the depreciation or amortisation charges over the expected useful life of the asset. This treatment has been applied to reflect the assets being on land owned by a third party, therefore at the end of the lease they will revert to that third party (see further explanation below regarding the ownership of land and buildings). In addition, as detailed in note 19, there is a contingent liability to account to BBSRC UKRI for the net proceeds of disposal of fixed assets acquired with grant assistance and for recurrent grant in excess of the financing requirements.

DESIGNATED FUNDS

Unrestricted designated funds comprise sums set aside by the Trustees for specific purposes including the acquisition and improvement of tangible fixed assets, the presentation of scientific conferences, and contributions towards capital to be replaced using the fully economic costing policy adopted by the Institute.

UNRESTRICTED FUNDS

Income received which is not directed by the provider to be applied for specific purposes to an extent which exceeds the constraints of the Institute’s constitution is accounted for within unrestricted general funds.

FIXED ASSETS

Fixed assets with a cost of £10,000 or more are capitalised and depreciated to their estimated residual values basis as set out below. Plant and

machinery and fixtures and fittings with a cost of less than £10,000 are expensed in year of purchase.
Land – 99 years being the length of the lease from BBSRC UKRI
Buildings – on a component basis, between 15 and 50 years
Plant and machinery – 5 years on a straight line basis
Fixtures, fittings, tools and equipment – 5 years on a straight line basis
No depreciation is provided on assets in the course of construction.

The Institute includes in its financial statements leasehold land and buildings owned by third parties, that it occupies and enjoys through peppercorn leases, at their full value. The current lease for the Pirbright North site ended in May 2016 and the lease for the Pirbright South site ended in March 2015. The South site lease for the main campus has been renewed for a term of 99 years. Currently the Institute is negotiating the terms for the North site lease and expects it to be concluded soon. The Trustees consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. The only circumstance under which the Institute could be asked to vacate the site is due to a failure to deliver the required programme, which in the Trustees' view is highly unlikely. Individual freehold and leasehold properties at the Pirbright site were revalued to fair value upon transition to FRS 102 (1 April 2014) with the surplus on book value being transferred to the revaluation reserve, except that a deficit which is in excess of any previously recognised surplus over depreciated cost relating to the same property, or the reversal of such a deficit, is charged (or credited) to the Statement of Financial Activities. The fair value at the transition date was recognised as the deemed cost of the assets.

LEASED ASSETS

Rentals payable under operating leases are charged to the Statement of Financial Activities on a straight line basis over the lease term. Assets acquired under finance leases are capitalised as tangible fixed assets and depreciated over their useful lives. Finance charges and interest are taken to the income and expenditure account in proportion to the remaining balance of capital repayments or net obligations outstanding.

INVESTMENTS

Quoted investments are valued at market value. Investments in subsidiary undertakings are

carried at the lower of cost and net realisable value. The policy of the Institute is to write down investments where a permanent diminution in value is deemed to have occurred.

STOCK

Laboratory supplies are valued at the lower of cost and net realisable value.

DEBTORS

Trade and other debtors are recognised at the settlement amount due after any trade discount offered. Prepayments are valued at the amount prepaid.

CREDITORS AND PROVISIONS

Creditors and provisions are recognised where the Institute has a present obligation resulting from a past event that will probably result in the transfer of funds to a third party and the amount due to settle the obligation can be measured or estimated reliably. Creditors and provisions are normally recognised at their settlement amount.

FINANCIAL INSTRUMENTS

The Institute only has financial assets and financial liabilities of a kind that qualify as basic financial instruments. Basic financial instruments are initially recognised at transaction value and subsequently measured at their settlement value.

FOREIGN CURRENCY TRANSLATION

Monetary assets and liabilities denominated in foreign currencies are translated into sterling at the rates of exchange ruling at the balance sheet date. Transactions in foreign currencies are recorded at the rate ruling at the date of the transaction.

STAFF AND PENSION COSTS

Staff engaged at the Institute prior to April 2015 were previously employed by BBSRC UKRI and deployed back to the Institute. Following the Transfer of Undertakings (Protection of Employment) exercise as of 1 January 2017, all BBSRC UKRI employees are now covered under the Institute's position as a separate legal entity. The Institute therefore retains responsibility for paying employment costs in relation to all employees, including basic pay and allowances, contractual payments, tax, national insurance and pension contributions. Employees engaged prior to April 2015 remain members of the Research Councils' Pension Scheme (RCPS), a defined benefit scheme for multiple employers. The BBSRC Employment Code remains applicable and frozen at the date of TUPE transfer. The Institute does not have any liability for pensions other than for monthly employer contributions, the rate of which is determined

by the Government Actuary's Department on a periodic basis. The cost of providing pension and related benefits is charged to the statement of financial activities. Some payments are to a defined benefit scheme as explained above and in Note 8 but there are no separately identifiable assets and the actuarial cost to the Institute is not known. Consequently, it is not possible to supply the information referred to in Financial Reporting Standard 102, Section 28 and the Institute has accounted for the scheme as though it were a defined contribution scheme.

TAXATION

The Pirbright Institute is a registered charity within the meaning of the UK Taxes Acts and is, therefore, eligible to claim exemptions to income tax and capital gains tax.

JUDGEMENTS IN APPLYING ACCOUNTING POLICIES AND KEY SOURCES OF ESTIMATION UNCERTAINTY

Preparation of the financial statements requires management to make significant judgements and estimates. The items in the financial statements where these judgements and estimates have been made include:

- Depreciation, which has been charged in line with the accounting policy above.
- The amount of depreciation charged and net book value of the assets is included in Note 9.
- The Institute includes in its financial statements leasehold land and buildings owned by third parties because the Trustees consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. These assets are held at their deemed cost, being their fair value at the transition date. The judgements applied and the revaluation adjustments and net book value of the assets is included in Note 9.

STATEMENT OF FINANCIAL ACTIVITIES

For the year ended 31 March 2020

	Note	Unrestricted Funds £'000	Restricted Funds £'000	2020 Total Funds £'000	2019 Total Funds £'000
Income from Donations					
Core strategic grant	1	-	15,449	15,449	15,451
Charitable activities					
Grants and contracts	2	16,361	25,171	41,532	29,622
Other charitable income	2	2,053	-	2,053	1,797
Investment income	3	1,045	-	1,045	975
Total		19,459	40,620	60,079	47,845
Expenditure on					
Raising funds					
Rental income and tenant services		307	321	628	682
Investment management costs		20	-	20	16
Charitable activities					
Scientific research		33,158	9,424	42,582	42,991
Rental income and tenant services		960	874	1,834	2,011
Other charitable activities		462	53	515	493
Total	4	34,907	10,672	45,579	46,193
Net gains on investments		-	-	-	9
Net (expenditure)/income before tax		(15,448)	29,948	14,500	1,661
Transfers between funds	15	14,449	(14,449)	-	-
Net movement in funds		(999)	15,499	14,500	1,661
Balances brought forward		9,127	274,336	283,463	281,802
Balances carried forward	16	8,128	289,835	297,963	283,463

All incoming resources and resources expended derive from continuing activities. The accompanying accounting policies and notes form an integral part of these financial statements.

BALANCE SHEET

At 31 March 2020. Company Number 00559784

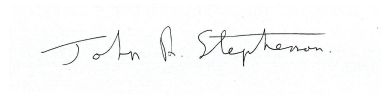
	Note	2020 £'000	2019 £'000
<i>Fixed assets</i>			
Tangible fixed assets	9	267,984	256,731
Investments	10	-	160
		<u>267,984</u>	<u>256,891</u>
<i>Current assets</i>			
Stocks	11	306	158
Debtors	12	6,704	8,851
Cash at bank and in hand		40,698	30,474
		<u>47,708</u>	<u>39,483</u>
Creditors: amounts falling due within one year	13	<u>(17,729)</u>	<u>(12,911)</u>
Net current assets		29,979	26,572
Total assets less current liabilities		<u>297,963</u>	<u>283,463</u>
Net assets		<u>297,963</u>	<u>283,463</u>
Financed by			
Unrestricted funds	16	8,128	9,127
<i>Restricted</i>			
Fixed asset fund (including revaluation reserve of £16,135k (2019: £16,917k))	15	284,798	266,596
Other restricted reserve	16	5,037	7,740
Total funds	16	<u>297,963</u>	<u>283,463</u>

The Institute includes in its financial statements leasehold land and buildings owned by third parties, these are detailed further in Note 9.

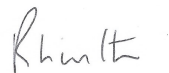
Approved by the Board of Trustees on 22 July 2020 and signed on their behalf on 22 July 2020.

The accompanying accounting policies and notes form an integral part of these financial statements.

Professor John Stephenson
Trustee Director



Roger Louth
Trustee Director



STATEMENT OF CASH FLOWS

For the year ended 31 March 2020

	£'000	2020 £'000	2019 £'000
<i>Net cash provided by operating activities</i>			
Net movement in funds	14,500		1,661
Interest and rent receivable	(1,045)		(975)
Depreciation charged	10,191		10,753
Revaluation gain on investments	-		(9)
Profit on disposal of plant & equipment	(2)		-
Realised gain on disposal of investments	(14)		-
Increase in stocks	(148)		(5)
Decrease in debtors	2,147		832
Increase in creditors	2,044		788
Net cash provided by operating activities		27,673	13,045
<i>Cash flows from investing activities:</i>			
Proceeds of sale of plant & equipment	2		-
Proceeds of sale of investments	173		-
Interest and rents received	1,045		975
Increase in cash deposits > 3 months	(562)		(2,545)
Purchase of property, plant and equipment	<u>(18,669)</u>	<u>(11,474)</u>	
Net cash used in investment activities		<u>(18,011)</u>	<u>(13,044)</u>
Change in cash and cash equivalents in the reporting period		9,662	1
Cash and cash equivalents at the beginning of the reporting period		9,867	9,866
Cash and cash equivalents at the end of the reporting period		<u>19,529</u>	<u>9,867</u>
Cash and cash equivalents as above		19,529	9,867
Cash placed on term deposits longer than 3 months		21,169	20,607
Cash at bank and in hand per the balance sheet		<u>40,698</u>	<u>30,474</u>

The accompanying accounting policies and notes form an integral part of these financial statements.

NOTES TO THE TRUSTEES' REPORT AND FINANCIAL STATEMENTS

For the year ended 31 March 2020

1 INCOME FROM DONATIONS

	2020	2019
	£'000	£'000
BBSRC UKRI – core strategic grant	15,449	15,451

All income from donations in the current and prior year was restricted.

2 INCOME FROM CHARITABLE ACTIVITIES

	2020	2019
	£'000	£'000
<i>Grant income</i>		
BBSRC UKRI – research grants	2,854	3,646
BBSRC UKRI – other grants	25,462	14,016
Other research grants	13,216	11,960
	41,532	29,622
Other charitable activities	2,053	1,797
	43,585	31,419

Income from charitable activities includes restricted income from grants and contracts of £25,171k (2019: £12,620k) All other income from charitable activities in the current and prior year was unrestricted.
The analysis by region is set out below:

	2020	2019
	£'000	£'000
United Kingdom	35,158	27,049
Europe	704	979
North America	3,822	2,283
Others	3,901	1,108
	43,585	31,419

INCOME FROM CHARITABLE ACTIVITIES (CONT)

	Unrestricted £'000	Restricted £'000	2020 Total £'000	2019 Total £'000
<i>Analysis of grant income</i>				
BBSRC UKRI				
- Competitive Project Grant – research grants	2,854	-	2,854	3,646
- Other grants	291	25,171	25,462	14,016
Total BBSRC UKRI	3,145	25,171	28,316	17,662
Defra “Umbrella” commission projects	2,472	-	2,472	2,493
Defra Surveillance	2,648	-	2,648	2,018
Other government departments, public sector	166	-	166	-
European Union	703	-	703	979
Industry, levy boards	513	-	513	874
Trusts, foundations, charities	2,892	-	2,892	3,429
Other research grant income	3,822	-	3,822	2,167
Total incoming resources – grants including research	16,361	25,171	41,532	29,622

Ancillary trades and activities

Other charitable income consists of trades and activities which are ancillary to the charitable activities of the Institute:

	Unrestricted £'000	Restricted £'000	2020 Total £'000	2019 Total £'000
Royalties	361	-	361	357
Diagnostic kits	141	-	141	29
Other	1,551	-	1,551	1,411
	2,053	-	2,053	1,797

3 INVESTMENT INCOME

	2020 £'000	2019 £'000
Rental income and tenant services	755	767
Bank interest	290	208
	1,045	975

All investment income in the current and prior year was unrestricted.

4 ANALYSIS OF EXPENDITURE

	Staff costs £'000	Other direct costs £'000	Allocated support costs £'000	2020 Total £'000	2019 Total £'000
Unrestricted funds					
<i>Costs of raising funds</i>					
Rental income and tenant services	-	-	307	307	345
Investment management costs	-	11	9	20	16
<i>Charitable expenditure</i>					
Grants for scientific research	12,549	8,768	11,841	33,158	33,254
Rental income and tenant services	-	(21)	981	960	1,100
Other charitable activities	-	255	207	462	437
Total unrestricted resources expended	12,549	9,013	13,345	34,907	35,152
Restricted funds					
Cost of raising funds	-	-	321	321	337
Charitable expenditure	-	-	10,351	10,351	10,704
Total restricted resources expended	-	-	10,672	10,672	11,041
Total resources expended	12,549	9,013	24,017	45,579	46,193
Total resources expended – 2019	12,015	8,316	25,862	46,193	

Included in allocated support costs are normal staff costs of £4,946,242 (2019: £3,429,887).

5 ANALYSIS OF SUPPORT COSTS

	Rental income and tenant services £'000	Investment management costs £'000	Grants and contracts for scientific research £'000	Science rental income and tenant services £'000	Staff restaurant and nursery £'000	Other charitable activities £'000	Total 2020 £'000	Total 2019 £'000	Basis of allocation
Unrestricted									
Premises	177	-	7,630	886	67	-	8,760	10,061	% of floor area
Financial costs	25	9	545	42	24	24	669	654	time spent
Management	36	-	882	15	17	10	960	1,077	time spent
Human resources	53	-	388	-	16	-	457	504	time spent
Information technology	10	-	1,941	21	10	22	2,004	1,943	time spent
Purchasing and procurement	5	-	420	16	11	5	457	504	time spent
Governance	1	-	35	1	1	-	38	78	time spent
	307	9	11,841	981	146	61	13,345	14,821	
Restricted									
Depreciation	318	-	8,971	849	53	-	10,191	10,753	
Repairs / compliance	3	-	453	25	-	-	481	288	
	321	-	9,424	874	53	-	10,672	11,041	
	628	9	21,265	1,855	199	61	24,017	25,862	

6 OPERATING COSTS

	2020 £'000	2019 £'000
Operating costs stated after charging:		
Auditor's remuneration		
- audit services	44	43
- non-audit services	8	-
Depreciation	10,191	10,753
Loss/(profit) on foreign exchange translations	93	(35)
Hire of plant and machinery	28	32
Rental of land and buildings	59	440

Operating costs are stated net of laboratory supplies carried forward in stock amounting to £305,937 (2019: £158,158).

7 REMUNERATION OF THE MEMBERS OF THE TRUSTEE BOARD

None (2019: none) of the members of the Trustee Board received any remuneration from the Institute during the year. Eleven members (2019: five members) of the Trustee Board had travel expenses of £7,917 (2019: £3,934) reimbursed during the year.

8 STAFF NUMBERS AND COSTS

The average number of persons employed by the Institute (including members of the Governing Council) during the year, analysed by category, was as follows:

	Number of employees	
	2020	2019
Office, management and estate support	122	116
Scientific	241	228
	363	344

The aggregate payroll costs of these persons were as follows:

	2020 £'000	2019 £'000
Wages and salaries	13,275	12,547
Social security costs	1,297	1,276
Other pension costs	2,520	2,456
	17,092	16,279

STAFF NUMBERS AND COSTS
(CONTINUED)

Some employees of the Institute are members of the Research Councils’ Pension Schemes, which are funded principally through employer and employee contributions. The pension schemes are analogous to the Principal Civil Service Pension Scheme (PCSPS), except that while the schemes that are defined benefit schemes and provide retirement and related benefits on final emoluments, redundancy and capability ill health are administered and funded by the council, the pension schemes are administered by the Research Councils’ Joint Superannuation Services and the schemes’ finances are administered by BBSRC UKRI. It is an unfunded scheme, and there are no separately identifiable assets and the actuarial cost to the Institute is not known. Consequently, it is not possible to supply the information referred to in Financial Reporting Standard 102, Section 28 and the Institute has accounted for the scheme as though it were a defined contribution scheme. The Institute pays employers’ contributions, at a percentage of scheme members’

pensionable pay and emoluments assessed by the Government Actuary’s Department (GAD) on a periodical basis. The rate for the year was 26.0%, which was established following GAD’s most recent assessment. The pension costs represent contributions payable by the Institute to the scheme and amount to £1,129,452, (2019: £1,287,414). Since April 2015, all new staff (including promoted staff) are employed directly by the Institute, rather than BBSRC UKRI under the Institute’s own terms and conditions. These staff are members of The Pirbright Company Pension, a defined contribution scheme administered by Aviva on behalf of the Institute. The Institute contributes 10% of scheme members’ pensionable pay and emoluments. The pension costs represent contributions payable by the Institute to the scheme and amount to £1,315,851 (2019: £1,105,958). Staff engaged at the Institute prior to April 2015 were previously employed by BBSRC UKRI and deployed back to the Institute. Following the Transfer of Undertakings (Protection of Employment) (TUPE) exercise as of 1 January 2017, all BBSRC employees are now covered under the Institute’s position as

a separate legal entity. The Institute therefore retains responsibility for paying employment costs in relation to all employees, including basic pay and allowances, contractual payments, tax, national insurance and pension contributions. Employees engaged prior to April 2015 remain members of the Research Councils’ Pension Scheme (RCPS), a defined benefit scheme for multiple employers. The BBSRC Employment Code remains applicable and frozen at the date of TUPE transfer. The Institute does not have any liability for pensions other than for monthly employer contributions, the rate of which is determined by the GAD on a periodic basis. The key management personnel of the Institute comprise the Senior Leadership Board and the Trustees (Note 7). The total employee benefits (including wages and salaries, employer’s national insurance and pension costs) of the key management personnel of the Institute were £574,405 (2019: £544,440).

The number of staff with emoluments greater than £60,000, (excluding pension costs), was:

	2020 Number	2019 Number
£60,000 – £69,999	11	7
£70,000 – £79,999	5	7
£80,000 – £89,999	3	4
£90,000 – £99,999	2	1
£100,000 – £109,999	-	1
£110,000 - £119,999	1	-
£130,000 – £139,999	-	1
£140,000 – £149,999	1	-

The number of staff earning over £60,000 for whom retirement benefits are accruing under defined benefit schemes amounted to 12 (2019: 12) and the amounts paid in the year were £232,785 (2019: £233,970).

9 TANGIBLE FIXED ASSETS

	Land and buildings £’000	Plant and machinery £’000	Fixtures, fittings, tools and equipment £’000	Payments on account and assets in course of construction £’000	Total £’000
Cost/revaluation					
At 1 April 2019	244,321	19,253	1,283	46,663	311,520
Additions	-	4	-	21,440	21,444
Disposals	-	(19)	-	-	(19)
At 31 March 2020	244,321	19,238	1,283	68,103	332,945
Depreciation					
At 1 April 2019	37,972	15,534	1,283	-	54,789
Charge for year historic	8,164	1,245	-	-	9,409
Charge for year revaluation	782	-	-	-	782
Disposals	-	(19)	-	-	(19)
At 31 March 2020	46,918	16,760	1,283	-	64,961
Net book value at 31 March 2020	197,403	2,478	-	68,103	267,984
Net book value at 31 March 2019	206,349	3,719	-	46,663	256,731

Land and buildings include land with a book value of £13,603k.

The Institute includes in its financial statements leasehold land and buildings owned by third parties, that it occupies and enjoys through peppercorn leases, at their full value. The current lease for the Pirbright North site ended in May 2016 and the lease for the Pirbright South site ended in March 2015. The South site lease for the main campus has been renewed for a term of 99 years. Currently, we are negotiating the terms for the North site lease and expect it to be concluded in the next period. The Trustees consider that in substance the risks and rewards of ownership of the assets have passed to the Institute, and as such follow a policy of recognising the assets on the balance sheet to reflect the continuing occupancy of these assets for the foreseeable future. The only circumstance under which the Institute could be asked to vacate the site is due to a failure to deliver the required programme, which in the Trustees’ view is highly unlikely. The Institute derives a rental income from some of the buildings included in its financial statements which it does not classify as investment properties as the cost of doing so exceeds the benefits.

The Institute used the option in FRS102 to use fair value at the date of transition to FRS102, (1 April 2014), as deemed cost on transition. GVA Grimley Limited, Chartered Surveyors, and an independent valuer derived these values from a professional valuation.

Part of the site is leased to Boehringer Animal Health UK Ltd. The lease is currently in the process of being renegotiated. If this process is successfully completed then this part of the site will be reclassified as an investment property.

10 INVESTMENTS

	2020 £'000	2019 £'000
UK listed investments held as fixed assets		
Market value at 1 April 2019	160	151
Disposals	(160)	-
Unrealised profit	-	9
Market value at 31 March 2020	-	160
Represented by:		
Genus plc	-	86
Dairy Crest	-	74
Total	-	160

Investment in subsidiary undertaking

Avrico Limited, which is incorporated in England and Wales, previously undertook foot-and-mouth disease testing on behalf of the Institute, was dormant during the current and previous year. The Institute owns the entire share capital of 100 ordinary shares of £1 each.

The assets and liabilities of the subsidiary were:

	2020 £'000	2019 £'000
<i>Current assets</i>		
Creditors: amounts falling due within one year	(8)	(8)
Net liabilities	(8)	(8)
Aggregate share capital and reserves	(8)	(8)

The Institute has provided for the deficit shown by the subsidiary undertaking by writing off the amount owed to it by Avrico Limited.

Investment in associated undertaking

Genomia Management Limited was formed on 16 April 2004 and is a company limited by guarantee. The company was established by way of grants from the Department of Innovation, Universities and Skills and the European Regional Development Fund. The company manages the Genomia Fund the objective of which is to assist in the development of research output from the members into commercially realisable opportunities. The Institute has equal membership in this company with Roslin Foundation, Moredun Research Institute, Rowett Institute of Nutrition and Health and Scotland's Rural College (SRUC). The company's turnover for the year ended 31 March 2020 was £229,000 (2019: £185,000) and its net assets as at 31 March 2020 were £114,000 (2019: £170,000).

11 STOCKS

	2020 £'000	2019 £'000
Laboratory supplies	306	158

The Institute's stock consists of laboratory supplies for research purposes.

12 DEBTORS: AMOUNTS FALLING DUE WITHIN ONE YEAR

	2020 £'000	2019 £'000
Trade debtors	2,967	1,219
Prepayments	1,375	1,333
Accrued income	1,836	3,968
Other debtors	526	2,331
	6,704	8,851

13 CREDITORS: AMOUNTS FALLING DUE WITHIN ONE YEAR

	2020 £'000	2019 £'000
Trade creditors	1,451	2,219
Taxation and social security	563	555
Other creditors	110	194
Accruals	5,715	3,259
Deferred income	9,276	6,170
Short-term compensated absences	614	514
	17,729	12,911

14 RECONCILIATION OF MOVEMENT IN ACCRUED AND DEFERRED GRANT INCOME

	2020 £'000	2019 £'000
Accrued income	1,836	3,968
Deferred income	(9,276)	(6,170)
	(7,440)	(2,202)
Net deferred research grant income at the beginning of the year	(2,202)	(402)
Research grant income received during the year	(21,600)	(18,802)
Research grant money released to SOFA during the year	16,362	17,002
	(7,440)	(2,202)

15 FUNDS

	Balance 1 April 2019	Net incoming/ (outgoing) resources	Transfer between funds	Balance 31 March 2020
	£'000	£'000	£'000	£'000
<i>Unrestricted funds:</i>				
General	4,527	(14,874)	15,449	5,102
Designated	4,600	(574)	(1,000)	3,026
<i>Restricted non-endowment funds:</i>				
Fixed Asset Fund	266,596	14,599	3,603	284,798
<i>Other restricted funds:</i>				
Fixed Asset Project Support Costs	3,343	-	-	3,343
DP2 phase 2 occupation	4,315	(92)	(2,603)	1,620
IS4L Interim Insectary	6	-	-	6
BBSRC UKRI core grant funding	-	15,449	(15,449)	-
Other	76	(8)	-	68
	283,463	14,500	-	297,963

Unrestricted designated funds

Unrestricted designated funds comprise sums set aside for specific purposes including the acquisition and improvement of tangible fixed assets, the presentation of scientific conferences, and contributions towards capital to be replaced using the fully economic costing policy adopted by the Institute. This includes £2,167k for occupation costs relating to capital projects (2019: £2,750k), £15k to maintain scientific equipment capacity and capability (2019: £400k), £153k for IT resilience (2019: £306k), £nil for additional car parking at the Pirbright campus (2019: £143k), £624k for group leaders (2019: £862k) and £67k for other projects (2019: £139k).

FUNDS (CONTINUED)

Restricted non-endowment funds

Restricted non-endowment funds comprise grants received from funders specifically to be applied in the acquisition or improvement of tangible fixed assets or otherwise applied for such purposes as specified by the grants provided.

	2020 £'000	2019 £'000
Fixed Asset Fund		
Balance brought forward	266,596	264,926
Grants received	25,171	12,607
Depreciation/impairment (Note 6)	(10,191)	(10,753)
Revenue spend	(381)	(184)
Transfers	3,603	-
Balance carried forward	284,798	266,596

The Fixed Asset Fund is not an endowment fund, but represents funding received, principally from BBSRC UKRI, for the past and future acquisition of tangible fixed assets. These assets are built on land that is not owned by The Pirbright Institute. The capital fund has been set up to assist in identifying those funds that are not free funds and it represents the net book value of tangible fixed assets held by the charity and amounts received for capital but not yet spent. The unexpended balance of unrestricted designated funds and restricted funds is invested in temporary deposits and appears in the balance sheet under current assets.

Other restricted funds

Fixed Asset Project Support Cost grants have been received from BBSRC UKRI to provide funding towards support costs and overrun costs relating to the DP1 capital projects. The Capital Rebuild Grant, Additional Construction Support has on approval from BBSRC UKRI been transferred to development phase 2 occupation fund. As part of the ongoing development, project funds from these reserves have been transferred to the Fixed Asset Fund. The BBSRC UKRI core grant funding is received from BBSRC UKRI to ensure that the Institute's facilities are maintained at the necessary cutting-edge high containment level that is essential to provide a national capability.

Transfers between funds

	Unrestricted general funds £'000	Unrestricted designated funds £'000	Restricted funds £'000
Transfer of funds to general reserves	15,449	(1,000)	(14,449)

The transfers during the year are as follows:
The BBSRC UKRI core grant funding restricted fund transfer of £15,449k has been made to set overhead expenditure incurred in the year against the restricted grant received for this purpose. £1,000k has been transferred from the unrestricted designated reserve for occupation costs relating to capital projects to the restricted fixed asset fund in respect of additional costs incurred in construction of The Brooksby Building that are not being funded by BBSRC UKRI. £2,603k has been transferred from the restricted reserve for DP2 phase 2 occupation costs to the restricted fixed asset fund in respect of savings in occupation costs being reallocated to meet additional costs incurred in the construction of The Brooksby Building.

16 ANALYSIS OF NET ASSETS BETWEEN FUNDS

	Fixed assets £'000	Net current assets £'000	Total £'000
Unrestricted funds	-	8,128	8,128
Restricted funds			
Capital fund	251,849	16,814	268,663
Revaluation reserve	16,135	-	16,135
Other restricted funds	-	5,037	5,037
	<u>267,984</u>	<u>29,979</u>	<u>297,963</u>
	Fixed assets £'000	Net current assets £'000	Total £'000
Prior year			
Unrestricted funds	160	8,967	9,127
Restricted funds			
Capital fund	239,814	9,865	249,679
Revaluation reserve	16,917	-	16,917
Other restricted funds	-	7,740	7,740
	<u>256,891</u>	<u>26,572</u>	<u>283,463</u>

17 FINANCIAL INSTRUMENTS

	2020 £'000	2019 £'000
Financial assets measured at amortised cost	3,493	3,550
Financial liabilities measured at amortised cost	<u>(2,124)</u>	<u>(2,968)</u>
	<u>1,369</u>	<u>582</u>

Financial assets measured at amortised cost comprise trade debtors, amounts owed by related parties and other debtors. Financial liabilities measured at amortised cost comprise trade creditors, other tax and social security and other creditors.

18 COMMITMENTS

(a) Capital commitments at the end of the financial year for which no provision has been made:

	2020 £'000	2019 £'000
Authorised but not contracted for	<u>8,923</u>	<u>5,639</u>

The capital commitments of £8,923k (2019: £5,639k) will be significantly funded by BBSRC UKRI.

(b) Operating lease commitments

The Institute is committed to the following charges in respect of:

	2020 £'000	2019 £'000
Land and buildings		
Within one year	52	57
In two to five years	207	235
In over five years	<u>340</u>	<u>445</u>
Plant and Machinery		
Within one year	<u>-</u>	<u>39</u>

19 CONTINGENT LIABILITIES

There is a contingent liability to account to BBSRC UKRI for the net proceeds of disposal of fixed assets acquired with grant assistance and for recurrent and capital grants in excess of the financing requirements. No such liabilities existed at either 31 March 2020 or 31 March 2019.

20 RELATED PARTY TRANSACTIONS**Biotechnology and Biological Sciences Research Council part of UK Research and Innovation (BBSRC UKRI)**

(BBSRC UKRI) provides substantial funding to the Institute. The Institute is affiliated with BBSRC UKRI along with seven other institutes. Details of grants received from BBSRC UKRI are detailed in Notes 1 and 2. During the year, BBSRC UKRI charged the Institute £3,983 (2019: £35,957) for other costs.

Genomia Management Limited

During last year our associated undertaking in Genomia Management Ltd (Note 10) provided the Institute with £71,831 of grant income (2019: £nil).

REFERENCE AND ADMINISTRATIVE DETAILS

Trustees:

Professor John Stephenson: Chair
Professor Vince Emery: Deputy Chair
Ian Bateman
Ian Black
Jon Coles
Roger Louth
Dr Vanessa Mayatt OBE
Dr Sandy Primrose
Sir Bertie Ross
Professor David Rowlands
Jane Tirard

Director of the Institute:

Professor Bryan Charleston MRCVS

Company Secretary:

Helen Watts

Registered office:

Pirbright Laboratory,
Ash Road, Pirbright,
Woking, Surrey, GU24 0NF

Auditor:

BDO LLP,
2 City Place,
Beehive Ring Road,
Gatwick,
West Sussex, RH6 0PA

Bankers:

Lloyds Bank plc,
5 High Street,
Swindon, SN1 3EN

Solicitors:

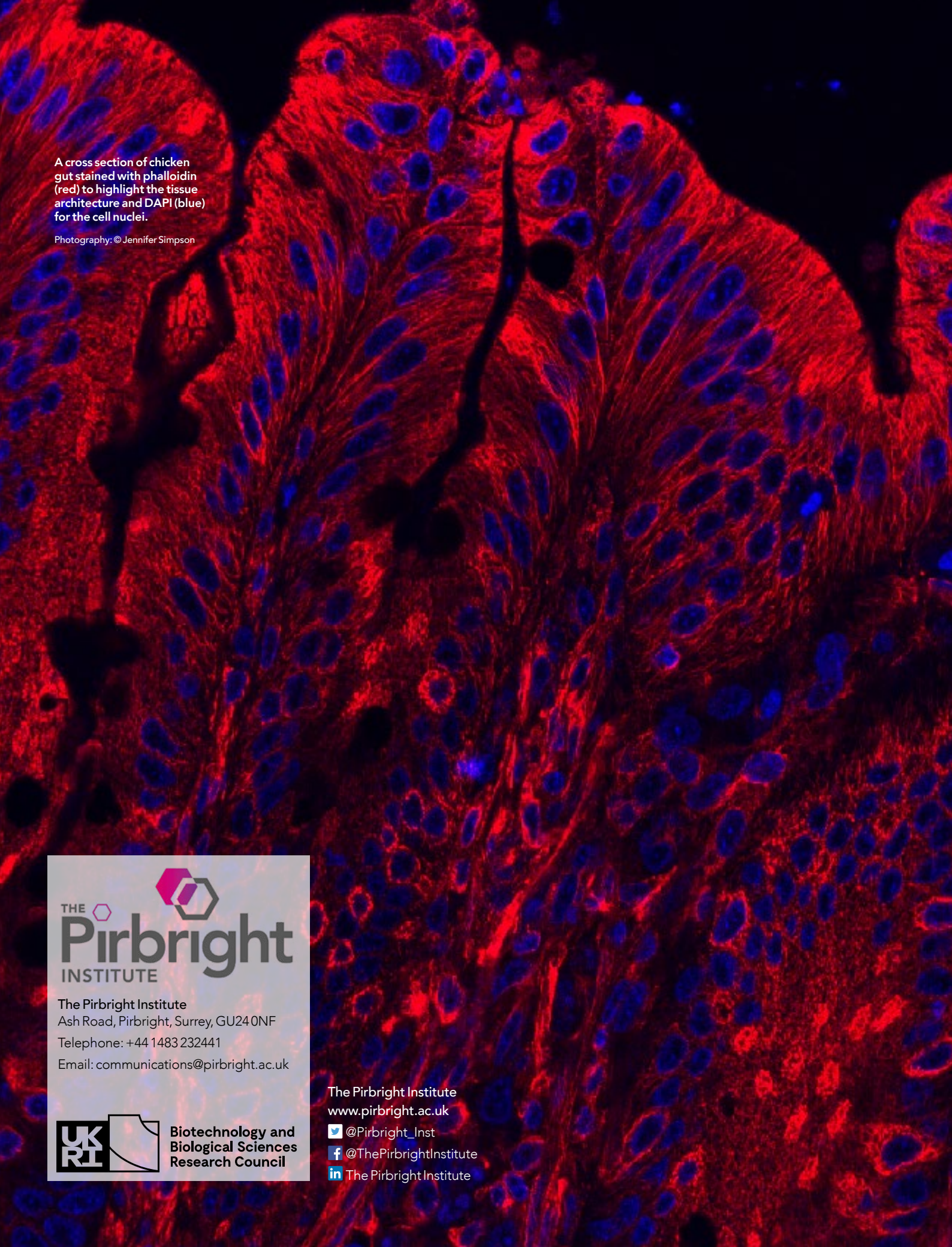
Charles Russell LLP,
1 London Square,
Cross Lanes,
Guildford, GU1 1UN

Penningtons Manches LLP,
9400 Garsington Road,
Oxford Business Park,
Oxford, OX4 2HN



An internal shot of The BBSRC National Vaccinology Centre: The Jenner Building, which houses Pirbright's low containment laboratories

Photography: © James Brittain



A cross section of chicken gut stained with phalloidin (red) to highlight the tissue architecture and DAPI (blue) for the cell nuclei.

Photography: © Jennifer Simpson



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