

THE  **Pirbright**
INSTITUTE

PREVENTING AND CONTROLLING
VIRAL DISEASE

ANNUAL REPORT
AND ACCOUNTS
FOR THE YEAR ENDED
31 MARCH 2017

REGISTERED CHARITY NUMBER: 228824
REGISTERED COMPANY NUMBER: 00559784

Cover image: Confocal microscope image of foot and mouth disease virus infected porcine tongue epithelium. Image courtesy Dr Pippa Hawes.

Image: Egg candling technique used to determine embryo viability for vaccine production

Trustees' Report incorporating the Strategic Report	3
Independent Auditor's Report	29
Principal Accounting Policies	30
Statement of Financial Activities	32
Balance Sheet	33
Statement of Cash Flows	34
Notes to the Trustees' Report and Financial Statements	35
Reference and Administrative Details	48

The Board of Trustees of The Pirbright Institute (its governing body) presents its Annual Report and Accounts for the year ended 31 March 2017. The Annual Report provides details of Pirbright's mission, objectives, achievements, scientific and financial performance in the year, as well as its future plans, risk management, and governance and management structure.

ABOUT US

The Pirbright Institute's mission is to be the world's leading innovative centre for preventing and controlling viral diseases of livestock. The Institute carries out ground-breaking scientific research into viral diseases of livestock and diseases that can spread from farm animals to humans. We provide the UK with its capacity to predict, detect, understand and respond to incursions of specific high-consequence viral pathogens.

OUR STRATEGY

The Pirbright Institute's strategic aims are to:

- **Predict** the worldwide spread of viral diseases which threaten economic prosperity and health, and to provide an early warning to the UK and EU of encroaching virus threats.
- **Detect** contain and eliminate high-consequence viral diseases using monitoring, diagnostic testing, and carrying out mass surveillance during and after virus outbreaks.
- **Understand** through fundamental research the complex biology of viruses of economic importance by characterising the structure, genetics, replication and evolution as well as filling gaps in our knowledge on the virus-host and virus-vector interactions.
- **Respond** in the event of a virus outbreak by providing primary diagnostics, vaccinology expertise and advising disease control agencies including OIE, EU, FAO and Defra.
- **Use innovative genetic technologies** and novel scientific approaches to control the spread of disease through a number of control methods including vaccine development and vector control.
- **Support the UK's scientific knowledge base** and develop leading scientists of the future across a number of important research disciplines.

- **Engage with the public, partners and policy-makers** using a wide range of media to initiate conversations that will help shape our future science.

OUR IMPACT

Pirbright continues to have a major global impact by making a crucial contribution to the control of viral diseases of livestock in the worst affected areas of the world and protecting the UK from these diseases, including those that spread from animals to people.

Pirbright scientists have made important contributions to farming, industry and society in the UK by employing fundamental and applied research along with surveillance and diagnostics to prevent, control and contain viral diseases.

Viral diseases are one of the top ten global challenges threatening health, economy and food security and research into how these can be prevented, controlled and ultimately eradicated is a priority of governments world-wide.

For example, foot-and-mouth disease (FMD) production losses have a big impact on the world's poorest where more people are directly dependent on livestock. The annual impact of FMD in endemic regions alone amounts to between US\$6.5 and US\$21 billion.

Outbreaks in foot-and-mouth disease free countries and zones cause losses of >US\$1.5 billion a year and the crucial role Pirbright plays in understanding, detecting and preventing this devastating disease is evidenced by the £4m of funding it secured in 2016-2017 to fund further research. Eradication of FMD by 2033 is estimated to deliver £5,100m of annual savings globally (Source: *Brookdale Consulting Report, 2014*).

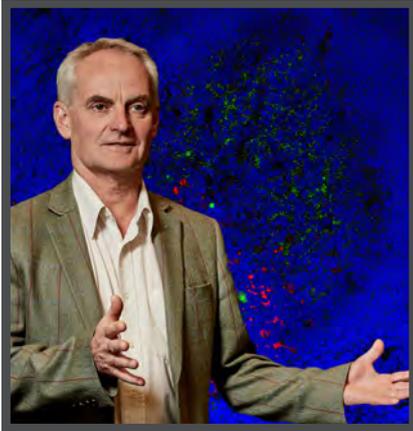
Research by scientists at Pirbright in collaboration with partners has enabled the development of a synthetic FMDV vaccine which has successfully been trialled and is undergoing further commercial development. Pirbright is also leading the way in the control and eradication of other potentially devastating global diseases including peste des petit ruminants (PPR), African swine fever (ASF) and lumpy skin disease (LSD) by understanding host-virus interactions, developing effective vaccines and improving diagnostic tools.

Pirbright gives
back £14.93 to the
UK economy for
every £1 invested.



(Source: Brookdale Consulting Report 2014)

OUR SUCCESS AND FUTURE VISION



The past year has seen immense change and exceptional scientific achievement at Pirbright, bringing major breakthroughs in our understanding of virus and host interaction. Many have been achieved through the use of cutting-edge genetic technology and complex bio-mathematical modelling to build on our expert knowledge of the immune systems of livestock to contain, control and combat disease for global economic and food security.

Pirbright science is now located on a single campus and includes state-of-the-art high and low containment laboratories and large and small animal facilities, a unique resource that enables us to use our world-leading expertise to study viruses in their natural hosts. Our scientific excellence continues to be recognised through acclaimed awards and accolades on a global stage.

Several of our project leaders have secured prestigious funding awards from Wellcome Trust, Bill and Melinda Gates Foundation, Defra, Royal Society and EU, which reflects the high esteem in which Pirbright research is held worldwide. Of our externally funded grants (2012-to date), 348 are collaborations (70%) with 235 different organisations in 45 countries.

We are the national facility that protects the country from diseases that would stop international trade in livestock and livestock products, which would have major financial consequences for the UK. Consequently, Pirbright sits at the heart of the UK Animal and Plant Health strategy, acting as a node for coordination and collaboration.

A crucial element of our research success has been developing home-grown talent and we have a vibrant PhD training programme linking to top UK universities and international organisations.

We are highly effective in our public engagement and knowledge exchange, ensuring that Pirbright's impact is communicated widely via two-way

engagement to continue to influence and inform future scientific direction and benefit policy-making. Our STEM Ambassador programme doubled in 2016 and over 30 scientists are actively involved in promoting STEM in schools and colleges.

We have ambitious future plans – high throughput genomic sequencing, RNA transcribing, and protein analyses will be applied to our disease models to identify key elements of how diseases originate and develop. We have invested significantly in new genetic methods to study host-pathogen interactions with greater precision and to make virus-resistant lines.

We are confident that our plans for the future will define new host-pathogen interactions at different scales; the cell, whole organism and host populations. The range of viruses we study is under constant review and because of our strengths in studying the hosts we can move quickly when new threats emerge, for example, pandemic swine influenza and lumpy skin disease of cattle.

Pirbright will play a pivotal role in the delivery of the Biotechnology and Biological Sciences

Our scientific excellence continues to be recognised through prestigious awards and accolades on a global stage.

Research Council's (BBSRC) strategic frameworks for Agricultural and Food Security and Bioscience for Health and will continue to seek opportunities for collaborative research through the Global Challenges Research Fund (GCRF) and Industrial Strategy Challenge Fund (ISCF).

We are starting the financial year from April 2017 with confirmation of five-year funding for our key scientific research programmes from BBSRC (subject to a review at three years), a growing pool of world-leading researchers and a strengthening of our collaborative global network which will enable us to increase our impact on human and animal health and national and international economic security.

**Dr Bryan Charleston, Director and CEO
The Pirbright Institute**

ENHANCED HOST RESPONSES FOR DISEASE CONTROL

Science pursuit

What properties of the host response to virus infections determine if disease occurs and if viruses are controlled, persist or are transmitted to a new host?

Science outcome

Fully understanding the responses of host species to viral infection, from the genome to the whole organism and population.

Focuses expertise in disciplines such as immunology, genetics, entomology, vaccinology and bioinformatics to study host-virus interactions from the host perspective (including arthropods that act as virus vectors), the host's response to viral infection and the translation of this knowledge into the development of new and improved disease control methods.



UNDERSTANDING AND PREVENTING VIRAL DISEASES

Science pursuit

To gain a deeper understanding of how viruses behave: at a molecular level, by examining interactions within cells; the process of evolution within the host; and on a global scale by seeking to reconstruct and predict how viruses are transmitted and cause disease.

Science outcome

This work will enable the development of new and improved methods of disease control such as vaccines and diagnostics, for both animals and people.

This programme explores the interaction between virus and host from the perspective of the virus and identifies those properties of a virus that determine its ability to cause disease, replicate, evolve and spread.

Image: Foot-and-mouth disease virus

NATIONAL CAPABILITY



Pirbright offers the UK a national capability in three core areas:

High containment experimental facilities which enable the study of viruses that must be handled within a SAPO 4 environment in their natural livestock hosts.

Low containment experimental facilities to support the study of endemic viruses of poultry and livestock in the laboratory and natural hosts.

Science expertise which enhances the quality of research undertaken at the Institute through these specialist facilities, unique infrastructure and extensive collections of viruses and disease vector colonies.

SCIENTIFIC HIGHLIGHTS



MALENESS GENE DISCOVERED IN MOSQUITOES COULD ENABLE GENETIC CONTROL OF MALARIA

Dr Jaroslaw Krzywinski isolated a gene which determines maleness in the species of mosquito that transmits malaria. The discovery of the 'Yob' gene could pave the way for genetic control strategies of malaria, a devastating disease that causes the death of over half a million people annually mainly in sub-Saharan Africa.



GM TECHNOLOGY UNLOCKS POTENTIAL FOR A NEW GENERATION OF POULTRY VACCINES

Pirbright scientists, working with the Wellcome Trust Sanger Institute, have used genetic engineering to develop a more efficient and effective vaccine for Marek's disease which could pave the way for a new generation of poultry disease vaccines. The disease can cause poultry losses of up to 20% and currently vaccination is used to control the disease but birds are protected against only a few strains. Dr Yongxiu Yao, who led the research, used CRISPR-Cas9 techniques to edit genes to create a genetically modified vaccine that is easier and quicker to produce and capable of protecting against the most dangerous strains of the virus.

IMPROVED GENETIC DATABASE AN "INVALUABLE RESOURCE" FOR GLOBAL DISEASE RESEARCH

A complex genetic database that is available to all scientists to accelerate knowledge and understanding of MHCs, highly variable proteins which are central in controlling immune response, has been compiled and managed by Pirbright scientists in partnership with blood cancer charity Anthony Nolan. The IPD-MHC (Immuno Polymorphism Database – Major Histocompatibility Complex) Database project, led by Pirbright's Professor John Hammond, works to collect, name and categorise the many varied genetic sequences of MHC proteins and has grown significantly since launch with over 70 animal species now hosted. The project is supported by BBSRC and The European Bioinformatics Institute.

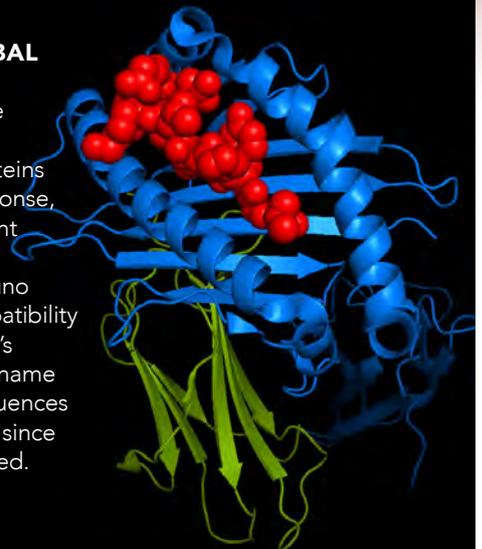


Image courtesy John Hammond



IMPROVED PRODUCTION OF FOOT-AND-MOUTH DISEASE VACCINE

Foot-and-mouth disease (FMD) is endemic in large parts of South America, Africa, the Middle East and Asia and is the most economically important infectious disease of livestock globally. There is currently a massive shortfall in the availability of vaccines, most strikingly in Africa. It is unlikely that high containment facilities will be built and maintained to increase the production of conventional killed virus vaccines because of the high initial and on-going costs.

Pirbright aims to find solutions to these challenges through fundamental research. Detailed knowledge of the atomic structure of the different serotypes and strains of the virus has resulted in significant advances to produce recombinant FMD virus like particles (VLP) as effective vaccines that can be manufactured in conventional low containment facilities. Novel methods have been developed to design specific changes in the VLP to allow them to remain intact during production, formulation, storage and transport and so remain immunogenic.

This research programme is currently funded as a Strategic Award by the Wellcome Trust and is a partnership between The Pirbright Institute, The University of Oxford/ Diamond Light Source, The University of Reading and MSD Animal Health.

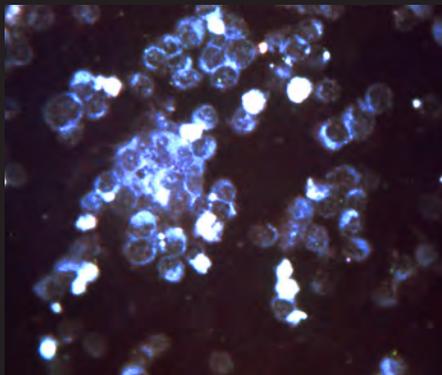


NEW EFFECTIVE VACCINE FOR DEADLY HORSE VIRUS

Scientists at Pirbright, led by Dr Javier Castillo-Olivares, are confident that they have identified a safe and effective vaccination strategy for African horse sickness virus (AHSV) using genetically modified Vaccinia Ankara virus to carry and deliver the gene of AHSV that creates a molecule-inducing protection against the disease, which causes 90% mortality in horses.

VACCINE BREAKTHROUGH IN BOVINE RESPIRATORY DISEASE COULD PROTECT HUMANS

Dr Geraldine Taylor, working in collaboration with other leading scientists, has made a breakthrough in the search for an effective vaccine for bovine respiratory syncytial virus (bRSV), which could also be effective against the human form of the disease that can be dangerous for infants and the elderly. Their work has shown that vaccinating calves with a stabilised version of a bRSV protein (DS2) can induce high levels of immunity and protect calves from respiratory disease. Since bRSV is similar to the human form of the disease (hRSV) it is hoped it could be equally effective as a vaccine to protect humans.



Bovine respiratory syncytial virus infected cells in culture. Image courtesy Dr Geraldine Taylor.

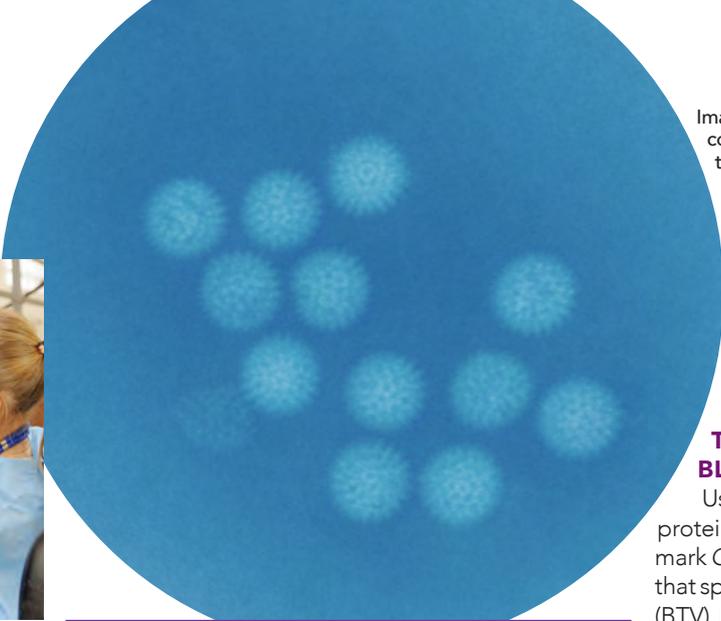


Image: Bluetongue virus core particles as seen in the transmission electron microscope. Each virion is approximately 25 nm in diameter.

Image courtesy Dr Pippa Hawes.

EGG PROTEIN MAY HOLD KEY TO CONTROLLING BLUETONGUE

Using ovalbumin, a protein in egg white, to mark *Culicoides* (midges) that spread bluetongue virus (BTV), Dr Chris Sanders, has been able to track midges from a treated barn to successfully determine how they move between farms and in different weather conditions. Data from over five trials and 9,000 midges (600 tested positive for the protein) revealed they had travelled 3.1km and enabled the development of complex modelling maps for the UK and other governments to predict how an outbreak of BTV could spread.

INFECTION ROUTE IS KEY TO TESTING EFFECTIVENESS OF SWINE FLU VACCINES

Dr Elma Tchilian has successfully demonstrated that the route of infection of swine flu virus (Influenza A virus) has a greater impact on the development and severity of disease than originally thought and should be taken into consideration when developing new anti-viral treatments and vaccines to control the spread of the disease. Natural infection by contact was found to be the most efficient route – inducing a strong immune response (innate and adaptive), even when the animals were exposed to a very low virus dose. Such a strong response more



closely resembled the immune response generated by directly inoculated animals using a high dose of virus.

GOAT GENOME MAPPING TECHNIQUE MILESTONE

International expert geneticists, including Pirbright scientists, have generated a new goat genome assembly using a combination of new sequencing technologies which is the most complete map produced for any mammal to date. This exceptionally accurate approach could revolutionise the process of genome sequencing for other species and aid scientists in their quest to better understand the relationship between genetics and disease and ultimately develop improved methods of disease control.



OUR CAMPUS

BBSRC NATIONAL VIROLOGY CENTRE: THE PLOWRIGHT BUILDING

Strategic capital investment of over £350 million from the Biotechnology and Biological Sciences Research Council (BBSRC) facilitated the initial phase of Pirbright campus development of a cutting-edge high-containment laboratory. The award-winning £135 million BBSRC National Virology Centre: The Plowright Building, provides the UK with a unique facility to research and control highly infectious viruses of livestock which include foot-and-mouth disease, African swine fever and swine flu.



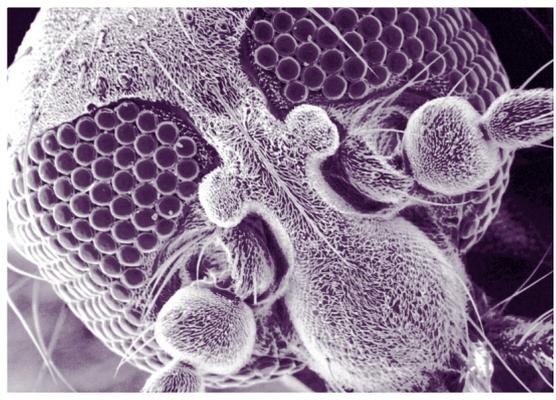
BBSRC NATIONAL VACCINOLOGY CENTRE: THE JENNER BUILDING

In 2016, following the completion of The BBSRC National Vaccinology Centre: The Jenner Building, scientists relocated from our site in Compton, Berkshire to this new laboratory. Here they undertake research to develop new avian vaccines and gain a better understanding of poultry viruses of huge economic impact such as avian influenza, Marek's disease and infectious bronchitis. This new low-containment laboratory is phase 2 of Pirbright's campus development and part of an overarching masterplan. The new building was officially opened in March 2017 by HRH The Princess Royal.



THE PHILIP MELLOR INSECTARY

The insectary outside of containment is used to create and maintain unique insect colony lines of disease vectors including biting midges such as *Culicoides* and mosquitoes such as *Aedes* and *Culex*. These can be studied in and out of high containment to improve our understanding of the relationship between virus, vector and host. Insect lines are also supplied externally to research organisations.



Culicoides midge imaged using a scanning electron microscope. Image courtesy Dr Pippa Hawes.



REFERENCE LABORATORIES

Our Reference Laboratories, which work on behalf of Defra and other international organisations, provide expertise and capacity for diagnostics and surveillance to monitor livestock for high consequence viral diseases underpinning global disease control efforts.

Pirbright's Reference Laboratories cover ten exotic viral diseases of livestock including foot-and-mouth, African swine fever, bluetongue and lumpy skin. Reference Laboratories have skilled and expert personnel, validated diagnostic tests, essential reagents and archive materials (viruses, antisera), and in our case, facilities for experiments in animals and to respond to outbreaks in a timely manner.



Photo courtesy of HDR Architecture, Inc.; © 2014 James Brittain

CAMPUS DEVELOPMENT



Development of the Pirbright campus continues with the construction of high-containment large animal facilities, a poultry research laboratory, new hatchery and insectary, along with demolition of old unused buildings and improvements to existing buildings and access roads.

BROOKSBY BUILDING

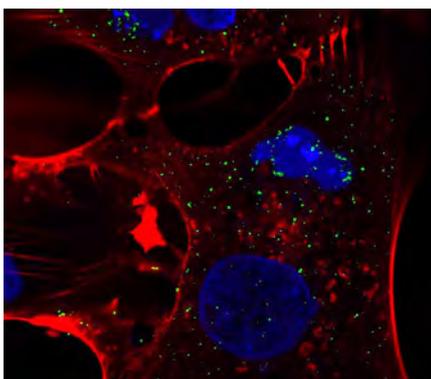
The new Brooksby Building, a high-containment animal facility at Pirbright, will be a specialist laboratory and work space for research in large farm animals and viral diseases. The new building, funded by the Biotechnology and Biological Sciences Research Council (BBSRC), will play a critical role in tackling viral diseases that have a devastating impact on animal health and global food production, including foot-and-mouth disease, Rift Valley fever and bluetongue. It will also support research related to diseases that infect humans – including avian influenza, by accommodating world-leading scientific diagnosis and research within a highly specialist, high containment environment. The building will be unique in providing facilities that support leading-edge work by scientists and veterinarians.

HOUGHTON HATCHERY

Work begins in late 2017 on a specific pathogen free hatchery for production of disease-free poultry to enable research on viruses of chickens and turkeys. The modular-designed building is primarily constructed off-site and is expected to be fully operational by summer 2018.

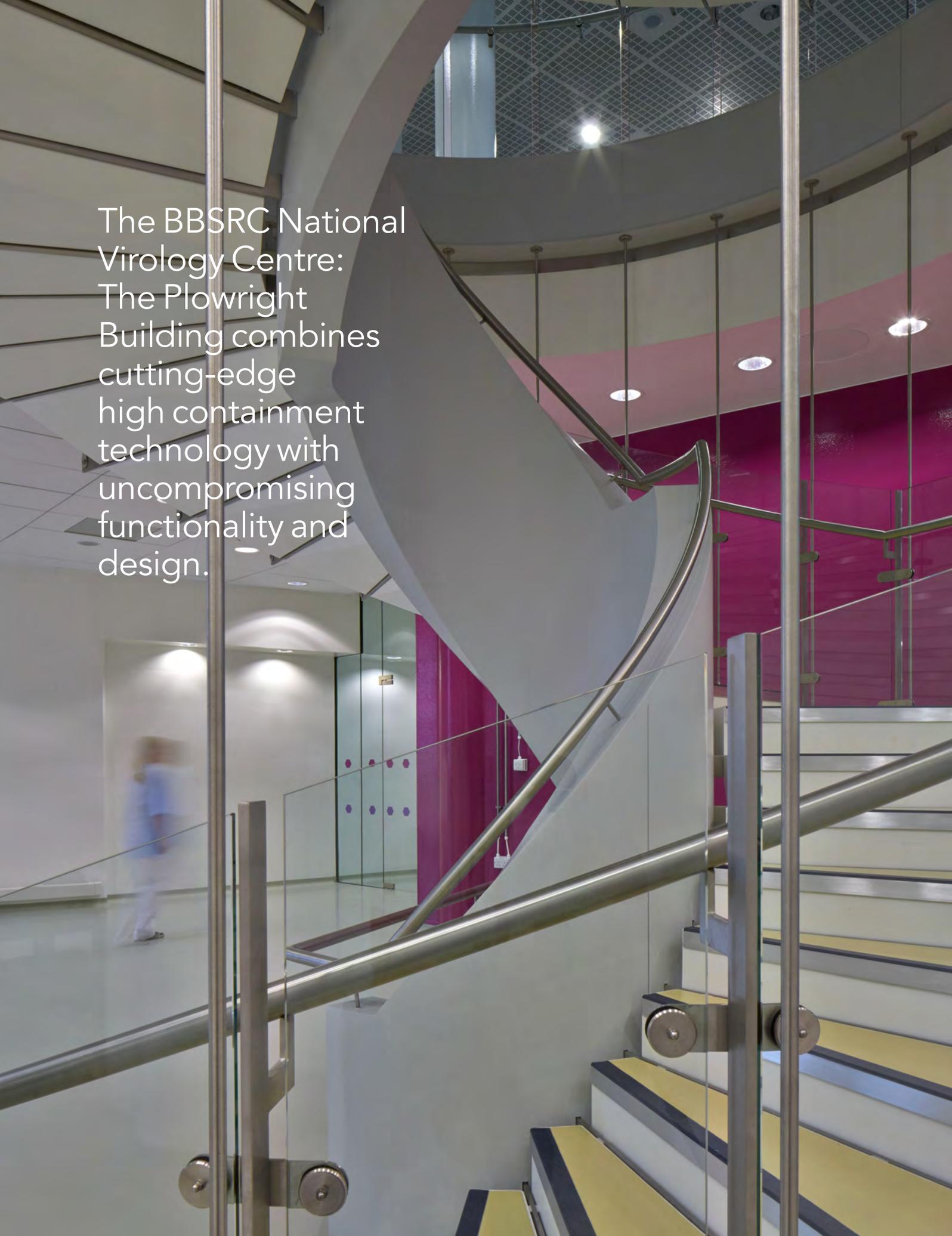
BIGGS BUILDING

Following closure of our Compton site this new facility will enable research on poultry at high and low containment levels. Existing animal research buildings will be refurbished to accommodate new avian research laboratories which are expected to be operational in 2019.



Lumpy skin disease virus infected cells in culture imaged using a confocal microscope. The green dots are virions, red is actin and the blue stain shows the cell nuclei and new virus DNA in the cell cytoplasm. Image courtesy of Dr Pip Beard





The BBSRC National
Virology Centre:
The Plowright
Building combines
cutting-edge
high containment
technology with
uncompromising
functionality and
design.

BUILDING OUR EXPERTISE

The Institute continues to attract world-renowned scientists who are leaders in their field, as well as highly knowledgeable professional support staff who facilitate our excellent research in a highly regulated environment.



Diseases caused by pox viruses such as lumpy skin and goat and sheep pox are becoming increasing threats to Europe and have spread rapidly in recent years.

Fundamental

research into these viruses and expertise on transmission and control has been limited. Previously from The Roslin Institute, Dr Pip Beard joined Pirbright as Group Leader of Large DNA Viruses where she leads research into poxviruses and viruses such as African swine fever, which have specialised to replicate within the cell cytoplasm. Her research aims to understand the complex relationship between host and virus and is crucial to combat these increasingly problematic diseases.



Recently becoming a Group Leader of Orbiviruses at Pirbright, Dr Karin Darpel's research focuses on viral disease transmission by arthropods such as *Culicoides*,

immune response and development of arbovirus infections in mammalian hosts, particularly diseases like bluetongue which pose an increasing threat to the UK. Understanding the immune response of mammalian hosts towards arboviruses, as well as to vector saliva, is vital to fully understand how these viruses cause disease, are transmitted and ultimately may be controlled.



Before joining Pirbright, Dr Anthony Wilson developed mechanistic models of the transmission of dengue in Thailand at the University of Oxford. Recently

appointed as Group Leader in Integrative Entomology, his current research includes studies of how factors such as stress, dose and temperature alter the ability of insects to transmit important viruses such as Rift Valley fever virus and bluetongue virus.



Flu affects many species of animal and is a global threat to people and animals threatening health, economic and food security. The Institute continues to build its

expertise in this area, tackling the disease on a number of fronts. Dr Holly Shelton was appointed as a Group Leader of Influenza Viruses in 2016, focusing in the area of influenza virus virulence and pathogenesis. Her research aims to understand which viral factors are responsible for the range of virulence and pathogenesis between virus strains and hosts.



Ensuring the Institute's economic future and scientific excellence forms a crucial element of our strategy. The appointment of Dr Louise Barton in 2016 as Head

of Science Administration to support the Director and Science Committee and to manage the Institute's scientific work, grant submissions, grants management processes, research contracts and agreements, aims to increase our funding from new and varied sources and boost commercial incomes. Louise joins us from the Wellcome Trust.



Pirbright has a collaborative inclusive culture evidenced by its excellent record in attracting scientific and professional expertise. It continues to strive to be an even

greater place to work. Mr Matthew Eades was appointed Head of HR and Corporate Development in June 2016 to drive our employee engagement strategy and improvements to our HR service. Matt brings a wealth of experience in people services and transformation in complex environments including Atomic Weapons Establishment and Defence Science and Technology Lab.

AWARDS AND ACHIEVEMENTS



Dr Anthony Wilson was selected an AAAS Alan I. Leshner Leadership Institute Public Engagement Fellow by The American Association for the Advancement of Science (AAAS).

Image © Royal Entomological Society



Professor Luke Alpey was awarded Visiting Professor in Zoology by the University of Oxford.

Image © European Patent Office (EPO)



PhD student Tom Whitehead was awarded Young Innovator of the Year at the Guildford Innovation Awards in March 2017 for his work on egg anti-viral proteins (award accepted by a colleague).



Dr Simon Graham received the prestigious European PRRS Research Award 2016 from Boehringer Ingelheim in recognition of his work on genetic programming of porcine memory B cells to enable isolation of PRRSV-neutralising monoclonal antibodies.



Dr Vishi Reddy has been awarded the prestigious 2017 High Quality Poultry Science Award, by global animal health company, MSD Animal Health.

Professor Venugopal Nair OBE, was jointly awarded the distinguished Royal Society International Collaboration Award for Research Professors.



Professor John Hammond was named an Honorary Professor by the University of Edinburgh for his academic achievements and long-standing collaboration with the Roslin Institute.



BUILDING ON OUR CULTURE

The Institute prides itself on its highly skilled and motivated workforce and provides the required support, nurturing and guidance required to ensure each employee reaches their full potential. Our PRIDE (Passion, Reliability, Innovation, Dignity, Excellence) values and associated behaviours are at the heart of the Institute's culture and signpost how we can effectively work together towards the achievement of our overall purpose, mission and strategic objectives.

To underpin these values, we have re-developed our parental-leave, sick pay, flexible working processes and people policies and are continuing our cultural transformation with our staff briefings, cross Institute Working Groups, support for transgender workers, equality, diversity and inclusion employee review and unconscious-bias workshops (over 95% staff attendance) help foster what employees say is a "safe and inclusive" workplace.

INCLUSIVITY AND DIVERSITY

We have received a bronze Athena SWAN award for our re-submission in 2017. We continue to build on our inclusive approach focusing on equality, diversity and inclusion throughout the organisation and we are working with the Employers Network for Equality and Inclusion (ENEI) to ensure that our practices, ways of working and overall culture continuously meets our high expectations and PRIDE values.

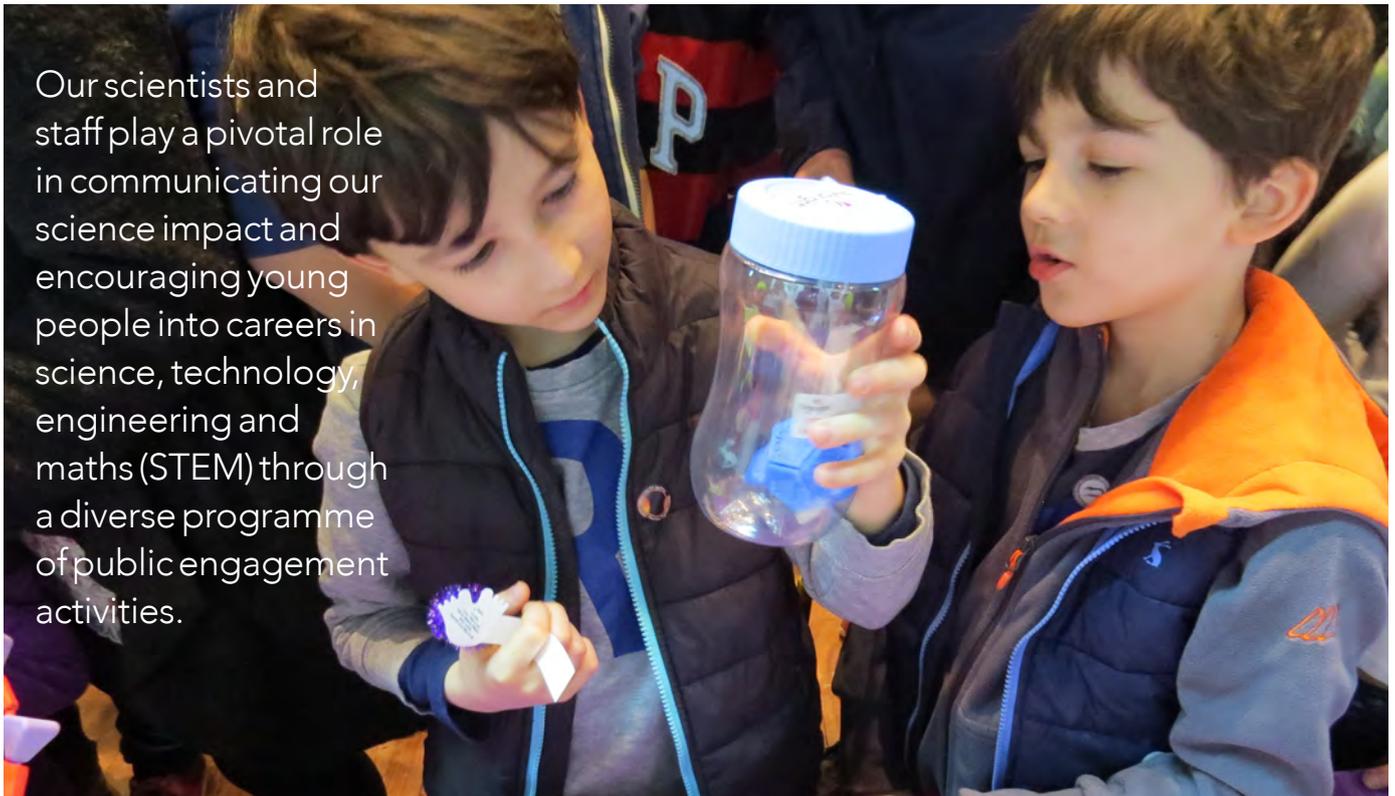


EQUALITY IN GENDER PAY

We are committed to reducing our gender pay gap over the next four years. There is a 0.5% difference between the number of women and men being paid a bonus for performance in 2016/2017. We are confident that men and women are paid equally for doing equivalent jobs across the business and we aim to achieve a 50:50 gender balance by 2025.

SCIENCE IN SOCIETY

Our scientists and staff play a pivotal role in communicating our science impact and encouraging young people into careers in science, technology, engineering and maths (STEM) through a diverse programme of public engagement activities.



CHELTENHAM SCIENCE FESTIVAL

In June 2016 Pirbright joined forces with the Veterinary Vaccinology Network and the Jenner Institute to give festival visitors a chance to question our researchers on their areas of expertise. Our Institute Director Dr Bryan Charleston and Professor Luke Alphey, both held debates on the pros and cons of genetically modifying vaccines and insects to prevent disease.

SOAPBOX SCIENCE

Dr Veronica Fowler and her students took Daisy the cow on tour around London to attend Soapbox Science; a day where female scientists take to the streets and showcase their research to the general public. Our enthusiastic scientists impressed passers-by with their workshop about how they test for foot-and-mouth disease virus in the field.

INNOVATE GUILDFORD SCIENCE AND ARTS FESTIVAL

The Institute attended Innovate Guildford again this year, a science and arts festival that gives our scientists an opportunity to engage with families from the local area. Children and adults alike enjoyed the talk our experts gave on bird flu, and had the chance to look at our live insects under a microscope.

UNDERSTANDING ANIMAL RESEARCH 360 TOUR

This innovative approach to improve openness on using animals in research has been well received. The 360 online tour is enables the public to virtually move around some of the Institute's facilities and animal housing. It includes videos featuring our animal technicians and scientists who work with the animals and explain how the animals are used in research.

STEM TRAINING

In November 2016, we welcomed 14 new STEM Ambassadors to our ranks, after they attended the induction here at Pirbright. They will join the thousands of other Ambassadors across the country who volunteer at school and college events to inspire the future generation of scientists.

WORKING WITH INDUSTRY



POULTRY PROFESSIONALS

Co-organised by Pirbright and The University of Nottingham, this ten-day university-accredited poultry course attracted 25 delegates including veterinary surgeons, technical staff and managers from the UK and worldwide poultry industry. Course content covers the nature, diagnosis and control of poultry diseases in a set of 30 lectures and a practical day, delivered by experts from academia, the veterinary profession and the poultry industry.



DEVELOPING, TESTING AND VALIDATING DIAGNOSTIC TOOLS

Pirbright routinely develops new reagents, such as monoclonal antibodies and licences to companies specialised in reagent provision and those more focused on diagnostic assay development and sale. We collaborate with companies to develop diagnostic assays that may be used around the world to detect disease and help companies to test and validate their own internally-developed assays.

PROTECTING POULTRY

With joint funding from Defra and a commercial partner, Pirbright has investigated the details of virus production of Marek's disease virus. This research has led to the generation of a potential vaccine candidate that could protect birds against Marek's disease and infectious bursal disease.



LEADING THE FIGHT AGAINST INSECT-BORNE DISEASES

Pirbright is playing a key role in an international project funded by the European Commission, to fight mosquito-transmitted diseases threatening Europe. The Infrac2 Project is an international consortium of 24 partner institutions coordinated by the Institut Pasteur, Paris. One of the key aims of the project will be to establish new experimental standards for insect infection studies and the Pirbright-led work package will be one of those helping to determine them.



VETERINARY VACCINOLOGY NETWORK CONFERENCE 2017

Pirbright hosted the 2017 UK Veterinary Vaccinology Network Conference in Belfast, a two-day event which brought together researchers and industry and featured four key themes in veterinary vaccinology including Microbiome and Immunology and Emerging Technologies.



GLOBAL PARTNERS

Pirbright has established partnerships all over the world and was involved in 249 collaborations in 46 countries during 2016-17.

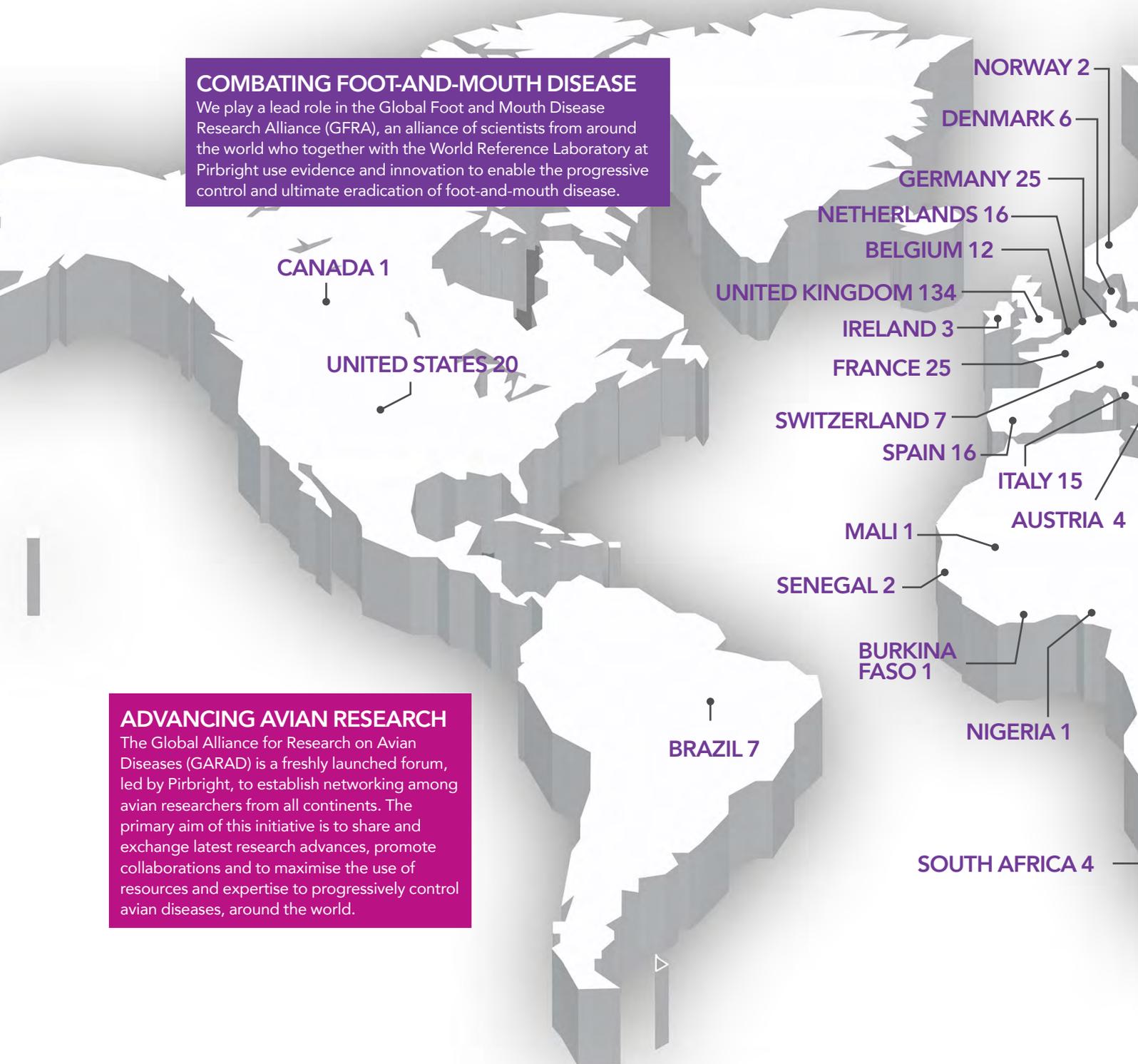
Map showing number of Pirbright global collaborations

COMBATING FOOT-AND-MOUTH DISEASE

We play a lead role in the Global Foot and Mouth Disease Research Alliance (GFRA), an alliance of scientists from around the world who together with the World Reference Laboratory at Pirbright use evidence and innovation to enable the progressive control and ultimate eradication of foot-and-mouth disease.

ADVANCING AVIAN RESEARCH

The Global Alliance for Research on Avian Diseases (GARAD) is a freshly launched forum, led by Pirbright, to establish networking among avian researchers from all continents. The primary aim of this initiative is to share and exchange latest research advances, promote collaborations and to maximise the use of resources and expertise to progressively control avian diseases, around the world.

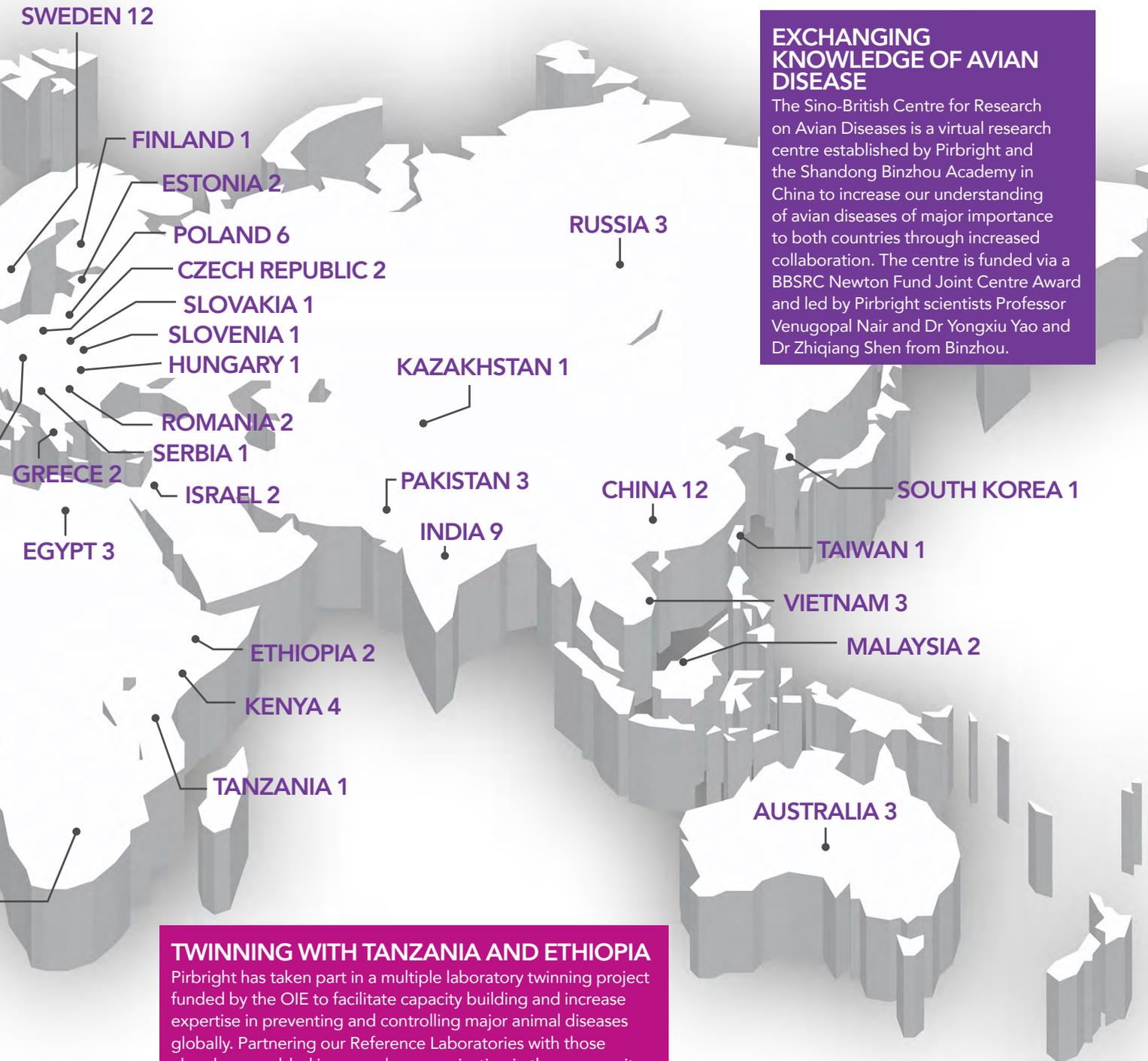


SHARING DATA AND RESOURCES

A web-portal for transboundary pathogens was established with a number of overseas partners, including the International Livestock Research Institute in Kenya, and others in Nigeria, Malaya and Kuala Lumpur. It aims to establish an immunological toolbox web-based resource for assessing immune responses to vaccines and correlates of protection against major livestock diseases in ODA countries.

EXCHANGING KNOWLEDGE OF AVIAN DISEASE

The Sino-British Centre for Research on Avian Diseases is a virtual research centre established by Pirbright and the Shandong Binzhou Academy in China to increase our understanding of avian diseases of major importance to both countries through increased collaboration. The centre is funded via a BBSRC Newton Fund Joint Centre Award and led by Pirbright scientists Professor Venugopal Nair and Dr Yongxiu Yao and Dr Zhiqiang Shen from Binzhou.



TWINNING WITH TANZANIA AND ETHIOPIA

Pirbright has taken part in a multiple laboratory twinning project funded by the OIE to facilitate capacity building and increase expertise in preventing and controlling major animal diseases globally. Partnering our Reference Laboratories with those elsewhere enabled improved communication in the community and a more even geographical spread of the expertise required to detect and control animal diseases.

FUNDING AND INVESTMENT

RESEARCH TO REDUCE DISEASE TRANSMISSION BY MOSQUITOES

Professor Luke Alphey received a five-year Wellcome Trust Collaborative Award of £1.3 million to fund a programme of work to explore genetic approaches to reduce vector competence of *Aedes aegypti* for chikungunya virus.

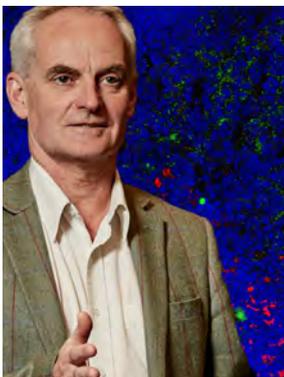


RESEARCH FUNDING FROM DEFRA

Dr Simon Gubbins was awarded £1.5 million over three years to research how early detection and vaccination could reduce the impact of foot-and-mouth disease outbreaks while Dr Simon Carpenter also receives three-year funding of over £1 million to study genetic analyses, molecular epidemiology and diagnostic systems for bluetongue. Defra also awarded Dr Don King £1.2 million over three years to provide the sequencing capability of the UK Foot-and-Mouth Disease Reference Laboratory.

VACCINE DEVELOPMENT FOR DEADLY DISEASES

Dr Bryan Charleston was awarded a total of £4.5 million (from a Government £120 million vaccine fund to fight deadly diseases) for two vaccine development projects. The first to develop a safe and effective vaccine for livestock and humans for Crimean Congo haemorrhagic fever (£2.8 million), a joint project with Public Health England and the second to undertake research into a novel chimpanzee adenovirus Rift Valley fever vaccine for humans. (£1.7 million)



RESEARCH TO COMBAT BLUETONGUE VIRUS

Dr Karin Darpel has been awarded £0.5 million from PALE-Blu as part of a collaborative project to tackle bluetongue virus and explore more effective and cross-serotype subunit-vaccines that are DIVA assay compatible and generate a stronger immune response from a single inoculation.



OBJECTIVES FOR 2017/18

Pirbright's principal objectives for the year ended 31 March 2018 are as follows:

- 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 improving 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 new Institute science programme grants.
- 5** To diversify our funding through access to the Global Challenges Research Fund and other new funding opportunities.
- 6** To build on our expertise in commissioning and maintaining high disease containment facilities, health and safety, biosafety and biosecurity and quality assurance.

PIRBRIGHT'S KEY PERFORMANCE INDICATORS ARE:

PUBLICATIONS IN
RELEVANT SCIENTIFIC
JOURNALS

SUBMISSION LEVELS
AND SUCCESS RATES
FOR RESEARCH GRANT
PROPOSALS

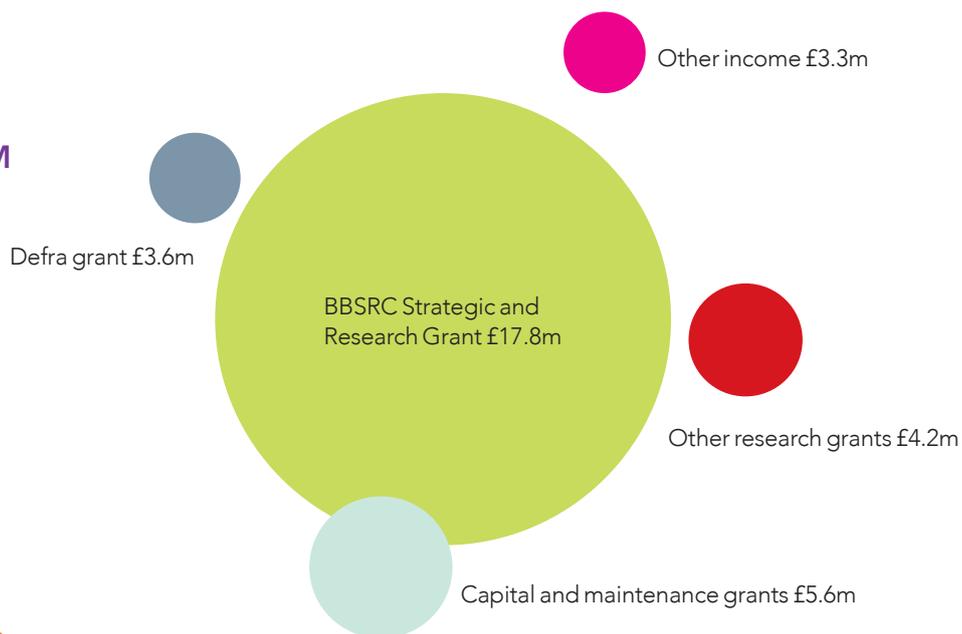
RECRUITMENT AND
RETENTION OF HIGH
QUALITY STAFF AND
STUDENTS

ANNUAL RESEARCH
INCOME

COMPLIANCE
WITH REGULATORY
AUTHORITIES

FINANCIAL CHARTS

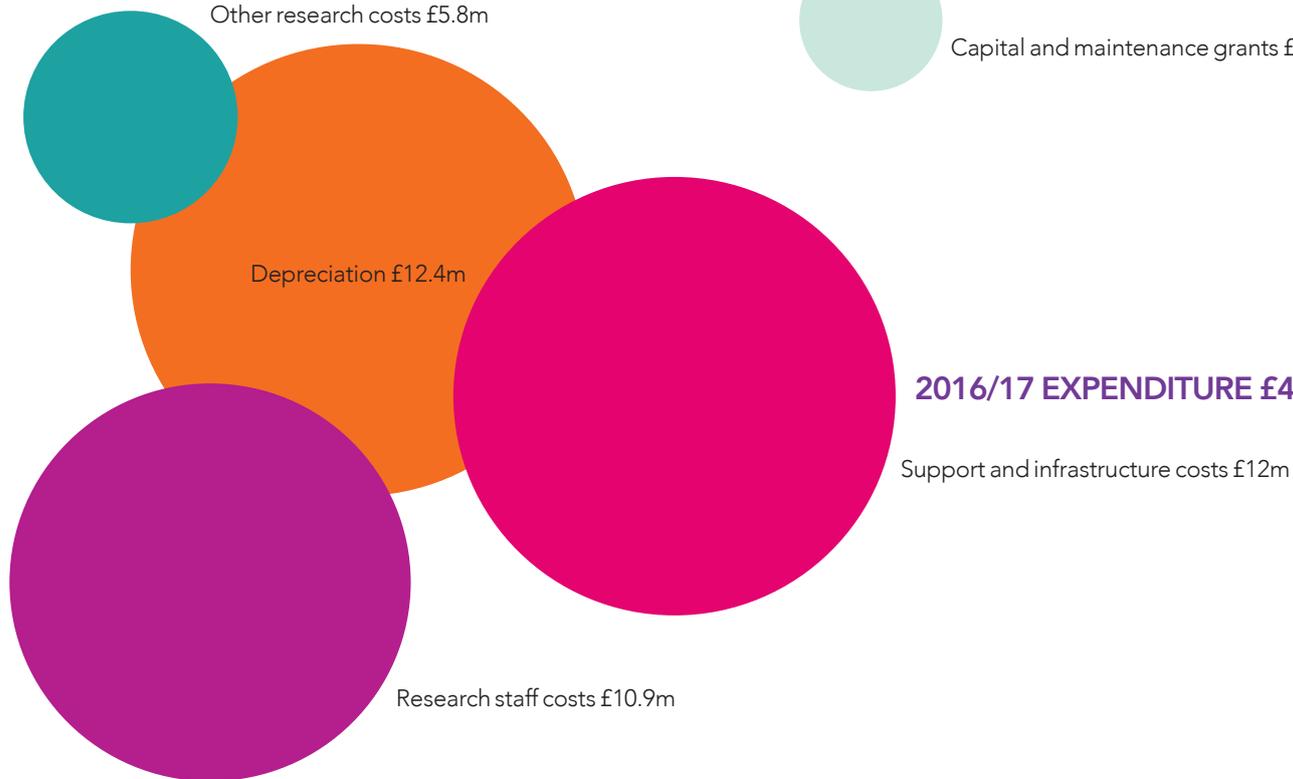
2016/17 INCOME £34.5M



Other research costs £5.8m

Depreciation £12.4m

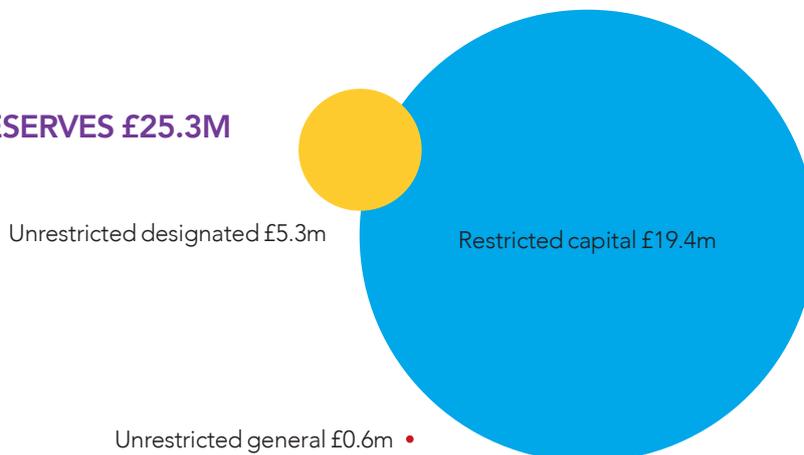
2016/17 EXPENDITURE £41.1M



Support and infrastructure costs £12m

Research staff costs £10.9m

2016/17 CASH RESERVES £25.3M



Unrestricted designated £5.3m

Restricted capital £19.4m

Unrestricted general £0.6m

FINANCIAL REVIEW

INCOME

Total incoming resources, amounted to £34.5m (2016: £39.4m). Investment in tangible fixed assets in the year totalled £4.7m (2016: £12.2m). This was substantially funded by grants from the Institute's principal sponsor Biotechnology and Biological Sciences Research Council (BBSRC) plus from Defra and other grant awarding bodies. The change relates to a fall in capital funding (£4.6m) however non-capital income has remained broadly the same being £29.4m in 2017 compared to £29.6m (2016).

EXPENDITURE

Recurrent expenditure for the year amounted to £41.1m (2016: £47.8m) staff costs accounted for £15.9m (39%) (2016: £19.2m; 40%) of expenditure. The fall in staff costs from 2016 relates to the impact of the restructuring within the Institute plus the closure of the Compton site.

CASH

Cash at March 2017 was £25.3m (2016: £28.7m). Pirbright deposits its cash with UK registered financial institutions. Investment income from cash deposits in the year was £165k (2016: £242k).

GRANT PROPOSALS

During the year, Pirbright researchers submitted grant proposals with a sponsor value of £45m (2015/16: £20m) and were awarded grants with a value of £13m (2015/16: £9.5m).

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 received its five-year strategic grant funding from BBSRC, £15m per annum, which was started on the 5 April 2017 and runs to March 2020 with a further provisional award for the subsequent two years to March 2022. 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) when BBSRC merge in to UKRI.

Having considered the risks in respect of future funding, financial forecasts for the period to March 2022 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 increase in unrestricted reserves of £1.0m. The main reason for the movement being the better operating performance resulting in an increase of £1.8m in general reserves due in the main to reduced operating costs. This has been partly offset by the reduction in unrestricted designated reserve of £0.8m, which were utilised to support the continued Pirbright site development.

Due to the phasing of the Pirbright Development Programme, the restricted reserves decreased by £7.6m. Capital expenditure in the year was £4.7m (2016: £12.2m) there has been an ongoing major development in 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 decreased by £6.6m in the year to £278.9m (2016: £8.4m to £285.5m). Restricted reserves decreased by £7.6m to £269.5m, of which £267.8m relates to capital reserve in connection with funding received from BBSRC.

Unrestricted reserves increased by £1.0m in the year to £9.4m (2016: £8.5m), of which £5.3m relates to a designated reserve to support ongoing non-operational activity and £4.1m 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 2017 unrestricted general funds showed a surplus of £4.1m (2016: surplus of £2.3m) In the event of Unrestricted General Reserves being below £4.5m it is the Institute's policy to ensure an operating surplus is generated to restore Unrestricted General Reserves back to a level in line with this policy by reducing costs, via efficiency savings and enhancing grant income. In addition, the level of funding expected to be provided by BBSRC for the next five-year funding cycle is considered by the Trustees to be sufficient to ensure the Institute has the ability to manage any such fluctuations or pressures. 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 comprise 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. The funding of this programme is via grants which are held within the restricted funds and comes to a total of £261m. 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.

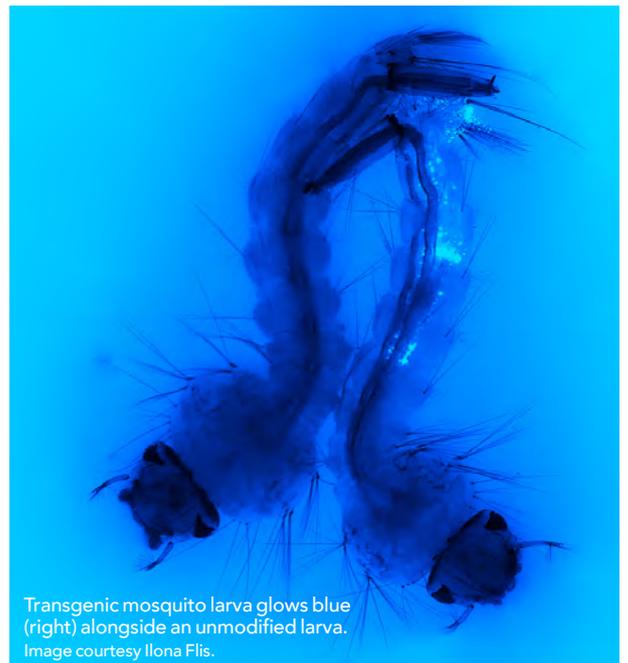
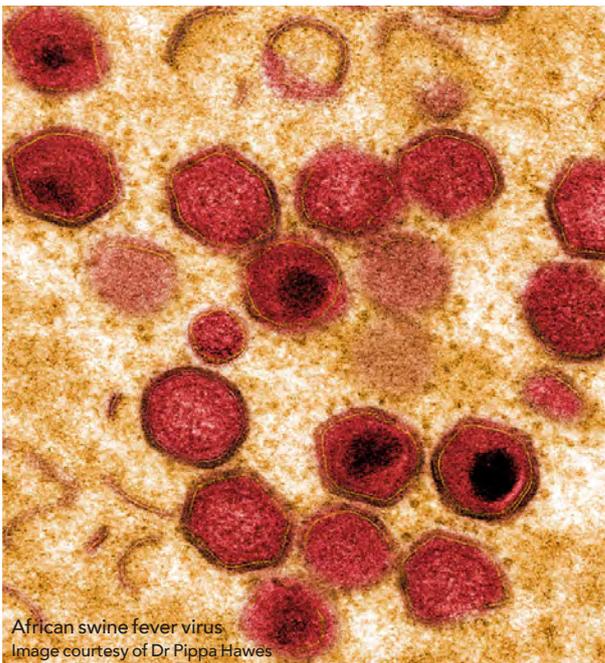
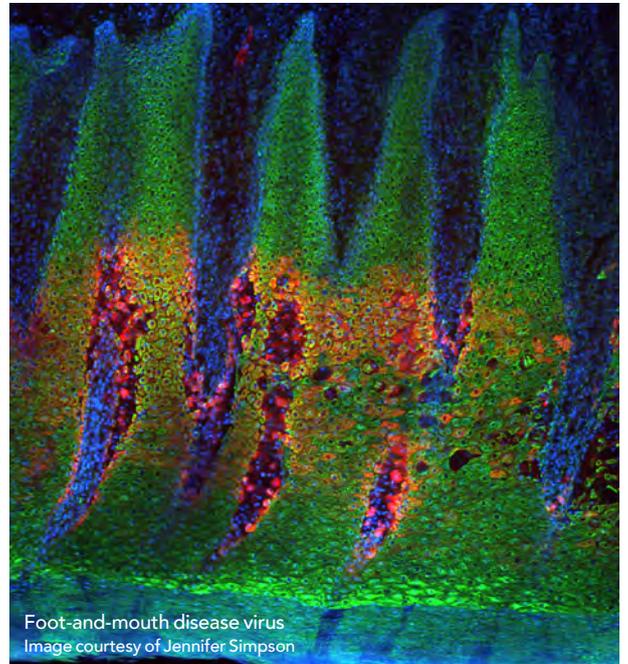
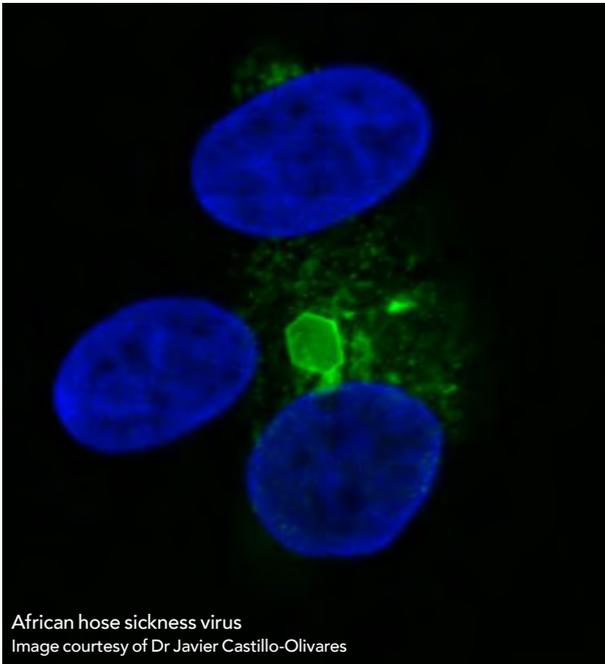
RISK MANAGEMENT

Pirbright's risk management system is broadly aligned to ISO 31000 and HM Treasury Orange Book. A Risk Policy is in place incorporating the High Reliability Organisation model and Human Factors Management into a risk management framework. A risk assessment process identifies and analyses operational, continuity and strategic risks, and delineates and monitors treatment of those risks. A range of insurance policies are in

place. A risk register is maintained in conjunction with risk owners, supplemented by satellite risk registers in each business area. An internal audit programme provides stakeholders with objective evidence of conformity to systems and effective management of risk. A training programme supports all of this. A Risk & Assurance Directorate provides specialist practitioners to develop and support the risk management

system and processes. Senior Leadership Team take oversight of risk management by regular review of the risk register, relevant leading and lagging metrics, and outcomes of audits and investigations. Trustee Board have established a Risk & Assurance Committee to take similar oversight on their behalf.

Key risks are summarised in the table right:



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. Some of the pathogens are also zoonotic, i.e. can infect humans and cause serious illness.	Physical, 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, HSE Major Hazard Intervention Plan, and a staff cohort of competent biorisk advisers.
BIOSECURITY (DELIBERATE RELEASE OF HIGH CONSEQUENCE PATHOGEN)		Physical, operational and management measures for security in conformity with requirements of the UK National Counter Terrorism Security Office, oversight by regional Counter Terrorism Security Adviser, background screening of new starts.
QUALITY	As well as being a leading research institute, Pirbright provides diagnostic reference laboratories for a range of pathogens for the UN Food & Agriculture Organisation (FAO) and the World Organisation for Animal Health (OIE), and is funded by HMG as a National Capability to provide diagnostic capacity in the event of disease outbreaks. Quality of Pirbright's scientific output is therefore critical, and FAO, OIE and HMG require the reference laboratories to be accredited to the ISO/IEC 17025 laboratory quality standard.	Accreditation of reference laboratories to ISO/IEC 17025 by the UK Accreditation Service, development and implementation of a quality management system across the Institute, internal audit, alignment to ISO 9001 in key operational areas.
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, and this is a 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 In Vivo 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 effect on biological and quality risks, eg, 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, etc.	Technical measures for cybersecurity in conformity with requirements of HMG Cyber Essentials, certification to HMG Cyber Essentials Plus by an accredited body, deployment of backup servers.
CONTINUITY		Major Incident Plan, 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, all plans regularly tested by exercises.
PEOPLE		Talent management framework, recruitment & retention and responsibility allowances, training & development programme, career pathways, performance & personal development reviews.
FINANCIAL		Rigorous systems for financial control, risk management, and quality management, processes and support to facilitate preparation and submission of competitive funding applications, business development programme, fraud policy.
BREXIT	Brexit is a significant risk as EU funding of the reference laboratories will end, EU sources of research funding may 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 mitigation.
INFLATION	Inflation is another significant risk as core funding 2017-2022 does not include an allowance for inflation.	Factored into business planning through planned increases in income from competitive funding sources and savings from improved procurement.

STRUCTURE, GOVERNANCE AND MANAGEMENT

MEMBERS

Members of the Institute will be those persons as set out in the Articles of Association and currently comprise of:

Professor Quintin McKellar
Professor Keith Gull
Dr Theo Kanellos
BBSRC as a Corporate Member

The Institute is currently reviewing the membership structure with a view to increase the number to five members.

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 TRUSTEE BOARD AND ITS INTERESTS

The directors of the Trustee Board during the year were:

Professor Q McKellar – Chair
Dr T Kanellos
Mr R Louth
Dr V Mayatt
Sir B Ross
Professor D Rowlands
Mr M Samuel
Professor J Stephenson
Dr A Craig (resigned 28 June 2016)

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, Biotechnology and Biological Sciences Research Council (BBSRC), which provides strategic funding and is supported by the Department for Business, Energy and Industrial Strategy. The latest Grant Agreement with BBSRC was awarded in April 2017 and runs to March 2020 with a further provisional award for the subsequent two years to March 2022. In addition, the Trustees are not expecting any change to the Core Capability Grant when BBSRC merge in to UKRI.

BOARD OF TRUSTEES

The Trustee Board has established two committees to support it in its work: the Finance and General Purposes Committee and the Risk and Assurance Committee. In addition a Nomination and Governance Committee is being set up to add further support to the Board. The 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's Science is organised into two strategic Science Programmes. Each Science Programme is managed by a Head of Programme who reports to the Director. The Trustee Board have 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

£8,140(2016: £8,103).

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 Pirbright Institute to be charitable in nature.

TRAINING OF TRUSTEES

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.

SENIOR LEADERSHIP TEAM

The Trustee Board consider that the Senior Leadership Team 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 Head of Finance and Company Secretary.

The remuneration and benefits of the Senior Leadership Team is based on the agreed and recognised salary banding for the Institute and ex-BBSRC and reviewed and agreed annually via the Senior Remuneration Committee, comprising of the Chair Trustee Board, Institute Director and Head of HR and Corporate Development.

Currently two members of the Senior Leadership team are on Pirbright terms and conditions of employment - Institute Director is evaluated at Band J (BBSRC PC1 equivalent), Director Risk and Assurance is evaluated at band H (BBSRC PC2 equivalent). The remaining Senior Leadership Team members are covered under the BBSRC terms and conditions of employment - Director of Capability is evaluated at PC2 (Pirbright band H equivalent) and Head of Finance and Company Secretary is evaluated at band G.

The Institute recognises dual sets of terms and conditions comprising of:

BBSRC DEPLOYED EMPLOYEES

Staff engaged prior to April 2015 were employed under ex BBSRC terms and conditions as detailed in the staff and pension costs accounting policy and Note 8. On 1 January 2017, staff previously under BBSRC terms and conditions transferred under TUPE to The Pirbright Institute but will remain covered by the BBSRC Employment Code.

PIRBRIGHT INSTITUTE EMPLOYEES

Since April 2015, all new staff (including promoted staff) are employed directly by the Pirbright Institute under the Institute's own terms and conditions.

APPROACH TO EQUALITY, DIVERSITY AND INCLUSION (EDI)

The Institute discharges all appropriate governance and accountability for EDI through the Equality, Diversity and Inclusion Committee, chaired by the Head of HR and Corporate Development and endorsed by the Institute Director and senior EDI champion. The Institute has further committed to the Athena SWAN charter principles and achieved bronze status in 2017.

The Institute has introduced flexible policies and process covering Recruitment, Dignity at Work and Equality, Diversity and Inclusion ensuring that every employee is able to give their best, unlock their

potential and feel engaged with the Institute, regardless of their differences and / or backgrounds. Institute and management decisions are fair and based on merit, equal opportunities, competence and potential. Discrimination of any type is not tolerated at the Institute.

TRADES UNION RECOGNITION

The Institute recognises collective bargaining arrangements of all appropriate trade unions representing staff employed at its laboratories. The trades union recognised for collective bargaining are Prospect and PCS (Public and Commercial Services).

The Institute arranges joint consultation forums including a Negotiating and Consultative Committee (INCC) and the Institute Change Committee (ICC). Where feasible, membership is drawn equally from the management and trade union representatives. This provides the necessary machinery for dealing with the local and national consultation and negotiation of the terms and conditions of service previously agreed by the BBSRC Joint Negotiating and Consultative Committee (JNCC) and now directly accountable through The Pirbright Institute.

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 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. The Company has now disbursed all of its remaining grants and it is planned to close the Company during 2017.

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.

TRUSTEES' RESPONSIBILITIES STATEMENT

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.

A resolution to re-appoint Grant Thornton UK LLP as auditors 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 Board.

Professor Q McKellar CBE
Trustee Director

Approved by the Board of Trustees on 22 November 2017 and signed on their behalf on 11 December 2017

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

We have audited the financial statements of The Pirbright Institute for the year ended 31 March 2017 which comprise the Principal accounting policies, the Statement of Financial Activities, the Balance Sheet, the Statement of Cash Flows and the related notes. 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.

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.

RESPECTIVE RESPONSIBILITIES OF TRUSTEE DIRECTORS AND AUDITOR

As explained more fully in the Trustees' Responsibilities Statement set out on page 28, 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.

OPINION ON FINANCIAL STATEMENTS

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 2017 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;
- have been prepared in accordance with the requirements of the Companies Act 2006.

OPINION ON OTHER MATTER PRESCRIBED BY THE COMPANIES ACT 2006

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

- the information given in the Trustees' Report incorporating

the Strategic Report for the period for which the financial statements are prepared is consistent with the financial statements; and

- the Trustees' Report incorporating the Strategic Report has been prepared in accordance with applicable legal requirements.

MATTER ON WHICH WE ARE REQUIRED TO REPORT UNDER THE COMPANIES ACT 2006

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 any material misstatements in the Trustees' Report incorporating the Strategic Report.

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.

Carol Rudge

Senior statutory auditor

For and on behalf of Grant Thornton UK LLP Statutory Auditor, Chartered Accountants, London 11 December 2017

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 received its five-year strategic grant funding from BBSRC, £15m per annum, which was started on the 5 April 2017 and runs to March 2020 with a further provisional award for the subsequent two years to March 2022. 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 CCG when BBSRC merge in to UKRI.

Having considered the risks in respect of future funding, financial forecasts for the period to March 2022 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 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.

INCOME

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.

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 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 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 and 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. Neither have yet been renewed, however the Institute is protected under the LTA. The Institute is in negotiations with BBSRC with the expectations of being granted new long term Pirbright 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.

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 and deployed back to the Institute. Following the Transfer of Undertakings (Protection of Employment) 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 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 2017

	Note	Unrestricted Funds £'000	Restricted Funds £'000	2017 Total Funds £'000	2016 Total Funds £'000
<i>Income from</i>					
<i>Donations</i>					
Core strategic grant	1	13,128	-	13,128	14,786
<i>Charitable activities</i>					
Grants and contracts	2	12,964	5,121	18,085	20,897
Research farm operation	2	574	-	574	1,073
Other charitable income	2	1,623	-	1,623	1,288
<i>Investment income</i>	3	1,085	-	1,085	1,324
Total		<u>29,374</u>	<u>5,121</u>	<u>34,495</u>	<u>39,368</u>
<i>Expenditure on</i>					
<i>Raising funds</i>					
Rental income and tenant services		274	373	647	792
Investment management costs		12	-	12	17
<i>Charitable activities</i>					
Scientific research		26,617	10,313	36,930	42,184
Research farm operation		711	486	1,197	1,931
Rental income and tenant services		917	984	1,901	2,197
Other charitable activities		389	62	451	684
Total	4	<u>28,920</u>	<u>12,218</u>	<u>41,138</u>	<u>47,805</u>
Net gains on investments		2	-	2	25
Net (expenditure)/income		456	(7,097)	(6,641)	(8,412)
Transfers between funds	15	<u>497</u>	<u>(497)</u>	<u>-</u>	<u>-</u>
Net movement in funds		953	(7,594)	(6,641)	(8,412)
Balances brought forward		8,456	277,089	285,545	293,957
Balances carried forward	16	<u>9,409</u>	<u>269,495</u>	<u>278,904</u>	<u>285,545</u>

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 2017. Company Number 00559784

	Note	2017		2016	
		£'000	£'000	£'000	£'000
<i>Fixed assets</i>					
Tangible fixed assets	9		250,605		258,320
Investments	10		133		131
			<u>250,738</u>		<u>258,451</u>
<i>Current assets</i>					
Stocks	11	96		498	
Debtors	12	10,998		9,948	
Cash at bank and in hand		25,332		28,729	
			<u>36,426</u>		<u>39,175</u>
Creditors: amounts falling due within one year	13		<u>(8,260)</u>		<u>(12,081)</u>
Net current assets			28,166		27,094
Total assets less current liabilities			<u>278,904</u>		<u>285,545</u>
Net assets			<u>278,904</u>		<u>285,545</u>
Financed by					
Unrestricted funds	15		9,409		8,456
<i>Restricted</i>					
Fixed asset fund (including revaluation reserve of £15,517k (2016: £18,758k))	15		260,767		269,003
Other restricted reserve	15		8,728		8,086
Total funds	16		<u>278,904</u>		<u>285,545</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 November 2017 and signed on their behalf on 11 December 2017

Professor Q McKellar CBE
Trustee Director

Mr R Louth
Trustee Director

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

STATEMENT OF CASH FLOWS

For the year ended 31 March 2017

	2017		2016	
	£'000	£'000	£'000	£'000
<i>Net cash provided by operating activities</i>				
Net movement in funds	(6,641)		(8,412)	
Interest and rent receivable	(1,085)		(1,324)	
Depreciation charged	12,461		11,500	
Revaluation gain on investments	(2)		(25)	
Decrease in stocks	402		341	
(Increase)/decrease in debtors	(1,050)		7,100	
(Decrease)/increase in creditors	(3,821)		1,220	
Net cash provided by operating activities		264		10,400
<i>Cash flows from investing activities:</i>				
Interest and rents received	1,085		1,324	
Purchase of property, plant and equipment	(4,746)		(12,194)	
Net cash used in investment activities		(3,661)		(10,870)
Change in cash and cash equivalents in the reporting period		(3,397)		(470)
Cash and cash equivalents at the beginning of the reporting period		28,729		29,199
Cash and cash equivalents at the end of the reporting period		25,332		28,729

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 2017

1 INCOME FROM DONATIONS

	2017	2016
	£'000	£'000
BBSRC – core strategic grant	<u>13,128</u>	<u>14,786</u>

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

2 INCOME FROM CHARITABLE ACTIVITIES

	2017	2016
	£'000	£'000
<i>Grant income</i>		
BBSRC – research grants	4,586	2,320
BBSRC – other grants	5,622	9,883
Other research grants	<u>7,877</u>	<u>8,694</u>
	18,085	20,897
Research farm operation	574	1,073
Other charitable activities	<u>1,623</u>	<u>1,288</u>
	20,282	23,258

Income from charitable activities includes restricted income from grants and contracts of £5,121k (2016: £9,720k)
All other income from charitable activities in the current and prior year was unrestricted.

INCOME FROM CHARITABLE ACTIVITIES (CONT)

	Unrestricted £'000	Restricted £'000	2017 Total £'000	2016 Total £'000
<i>Analysis of grant income</i>				
BBSRC				
- Competitive Project Grant – research grants	4,586	-	4,586	2,320
- Other grants	501	5,121	5,622	9,883
Total BBSRC	5,087	5,121	10,208	12,203
Defra “Umbrella” contract commission projects	2,094	-	2,094	2,951
Defra Surveillance	1,543	-	1,543	1,512
Other government departments, public sector	119	-	119	-
European Union	1,136	-	1,136	1,398
Industry, levy boards	238	-	238	117
Trusts, foundations, charities	2,482	-	2,482	1,396
Other research grant income	265	-	265	1,320
Total incoming resources – grants including research	12,964	5,121	18,085	20,897

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	2017 Total £'000	2016 Total £'000
Royalties	303	-	303	265
Diagnostic kits	188	-	188	103
Other	1,132	-	1,132	920
	1,623	-	1,623	1,288

3 INVESTMENT INCOME

	2017 £'000	2016 £'000
Rental income and tenant services	920	1,082
Bank interest	165	242
	1,085	1,324

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

4 ANALYSIS OF EXPENDITURE

	Staff costs £'000	Other direct £'000	Allocated support costs £'000	2017 Total £'000	2016 Total £'000
<i>Unrestricted funds</i>					
<i>Costs of raising funds</i>					
Rental income and tenant services	-	-	274	274	439
Investment management costs	-	6	6	12	17
<i>Charitable expenditure</i>					
Grants and contracts for scientific research	10,874	5,187	10,556	26,617	31,095
Research farm operation	62	369	280	711	1,395
Rental income and tenant services	-	(12)	929	917	1,201
Other charitable activities	-	218	171	389	627
Total unrestricted resources expended	10,936	5,768	12,216	28,920	34,774
Restricted funds					
Cost of raising funds	-	-	372	372	353
<i>Charitable expenditure</i>	-	-	11,846	11,846	12,678
Total restricted resources expended	-	-	12,218	12,218	13,031
Total resources expended	10,936	5,768	24,434	41,138	47,805
Total resources expended – 2016	11,260	5,528	31,017	47,805	

Included in allocated support costs are normal staff costs of £2,291,709 (2016: £5,693,631).

5 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	Total 2017 £'000	Total 2016 £'000	Basis of allocation
<i>Unrestricted</i>										
Premises	172	-	7,397	86	858	64	-	8,577	10,722	% of floor area
Financial costs	18	6	400	49	31	18	18	540	1,166	time spent
Management	11	-	240	10	5	5	3	274	2,947	time spent
Human resources	56	-	411	23	-	17	-	507	481	time spent
Information technology	7	-	1,547	67	17	8	17	1,663	1,882	time spent
Purchasing and procurement	5	-	429	41	16	11	5	507	481	time spent
Governance	5	-	132	5	2	3	1	148	307	time spent
	<u>274</u>	<u>6</u>	<u>10,556</u>	<u>281</u>	<u>929</u>	<u>126</u>	<u>44</u>	<u>12,216</u>	<u>17,986</u>	
<i>Restricted</i>										
Depreciation	374	-	10,530	498	997	62	-	12,461	11,500	
Repairs / compliance	(2)	-	(217)	(12)	(12)	-	-	(243)	1,531	
	<u>372</u>	<u>-</u>	<u>10,313</u>	<u>486</u>	<u>985</u>	<u>62</u>	<u>-</u>	<u>12,218</u>	<u>13,031</u>	
	<u>646</u>	<u>6</u>	<u>20,869</u>	<u>767</u>	<u>1,914</u>	<u>188</u>	<u>44</u>	<u>24,434</u>	<u>31,017</u>	

6 OPERATING COSTS

	2017 £'000	2016 £'000
<i>Operating costs stated after charging:</i>		
Auditor's remuneration		
- audit services	47	51
- non-audit services	33	69
Depreciation	12,461	11,500
Profit on foreign exchange translations	1	-
Hire of plant and machinery	7	1
Rental of land and buildings	<u>243</u>	<u>271</u>

Operating costs are stated net of laboratory supplies carried forward in stock amounting to £96,223 (2016: £168,283).

7 REMUNERATION OF THE MEMBERS OF THE TRUSTEE BOARD

None (2016: none) of the members of the Trustee Board received any remuneration from the Institute during the year. Seven members (2016: four members) of the Trustee Board had travel expenses of £6,957 (2016: £6,459) reimbursed during the year and none (2016: one member) received consultancy fees (2016: £2,890), as permitted under the Institute's articles.

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	
	2017	2016
Office, management and estate support	121	145
Research farm	-	1
Scientific	200	204
	<u>321</u>	<u>350</u>

The aggregate payroll costs of these persons were as follows:

	2017	2016
	£'000	£'000
Wages and salaries	12,046	15,113
Social security costs	1,296	1,027
Other pension costs	2,545	3,047
	<u>15,887</u>	<u>19,187</u>

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 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 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 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 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 £2,140,904 (2016: £2,958,367).

Since April 2015, all new staff (including promoted staff) are employed directly by the Institute, rather than BBSRC,

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 £404,221 (2016: £88,454).

Staff engaged at the Institute prior to April 2015 were previously employed by BBSRC and deployed back to the Institute. Following the Transfer of Undertakings (Protection of Employment) exercise as of 1 January 2016, 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 Government Actuary's Department on a periodic basis.

The key management personnel of the Institute comprise the senior leadership team 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 £666,494 (2016: £650,889).

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

	2017	2016
	Number	Number
£60,000 – £69,999	11	4
£70,000 – £79,999	3	4
£80,000 – £89,999	2	3
£90,000 – £99,999	1	2
£100,000 – £109,999	2	1
£110,000 – £119,999	1	1
£130,000 – £139,999	1	–
£150,000 – £159,999	–	1

The number of staff earning over £60,000 for whom retirement benefits are accruing under defined benefit schemes amounted to eighteen (2016: sixteen) and the amounts paid in the year were £278,900 (2016: £298,020).

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 2016	224,561	14,985	1,283	43,403	284,232
Additions	-	1,927	-	2,819	4,746
Transfers	23,103	-	-	(23,103)	-
At 31 March 2017	<u>247,664</u>	<u>16,912</u>	<u>1,283</u>	<u>23,119</u>	<u>288,978</u>
Depreciation					
At 1 April 2016	14,766	9,863	1,283	-	25,912
Charge for year historic	7,365	1,855	-	-	9,220
Charge for year revaluation	3,241	-	-	-	3,241
At 31 March 2017	<u>25,372</u>	<u>11,718</u>	<u>1,283</u>	<u>-</u>	<u>38,373</u>
Net book value at 31 March 2017	<u>222,292</u>	<u>5,194</u>	<u>-</u>	<u>23,119</u>	<u>250,605</u>
Net book value at 31 March 2016	<u>209,795</u>	<u>5,122</u>	<u>-</u>	<u>43,403</u>	<u>258,320</u>

Land and buildings include land with a book value of £10,363K.
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 North site ended in May 2016 and the lease for the Pirbright South site ended in March 2015. Neither have yet been renewed, however the Institute is protected under the LTA. The Institute is in negotiations with BBSRC with the expectations of being granted new long term Pirbright 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.

The Compton lease for the main site was handed back to BBSRC at the end of October 2016 with the Mayfield farm being the end of March 2017.

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. These values were derived from a professional valuation by GVA Grimley Limited, Chartered Surveyors, and an independent valuer.

10 INVESTMENTS

	2017 £'000	2016 £'000
<i>UK listed investments held as fixed assets</i>		
Market value at 1 April 2016	131	106
Unrealised profit	2	25
Market value at 31 March 2017	133	131
<i>Represented by:</i>		
Genus plc	67	72
Dairy Crest	66	59
Total	133	131

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:

	2017 £'000	2016 £'000
<i>Current assets</i>	-	-
Creditors: amounts falling due within one year	(8)	(8)
<i>Net liabilities</i>	(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 was a new business development vehicle whose primary aim of was 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 Foundation and the Moredun Research Institute. The company's turnover for the year ended 31 March 2017 was £Nil (2016: £Nil) and its net assets as at 31 March 2017 were £nil (2016: £Nil). The Company has now disbursed all of its remaining grants, no future trading activities are planned and it is planned to close the Company down.

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 Foundation, Moredun Research Institute, Rowett Institute of Nutrition and Health and the SRUC. The company's turnover for the year ended 31 March 2017 was £211,000 (2016: £196,000) and its net assets as at 31 March 2017 were £430,000 (2016: £1,106,000).

11 STOCKS

	2017 £'000	2016 £'000
Farm	-	330
Laboratory supplies	96	168
	<u>96</u>	<u>498</u>

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

12 DEBTORS

	2017 £'000	2016 £'000
Trade debtors	981	805
Other debtors	5,967	5,342
Prepayments	743	350
Accrued income	3,307	3,451
	<u>10,998</u>	<u>9,948</u>

13 CREDITORS: AMOUNTS FALLING DUE WITHIN ONE YEAR

	2017 £'000	2016 £'000
Trade creditors	1,724	376
Taxation and social security	594	487
Other creditors	53	449
Accruals	1,203	6,271
Deferred income	4,250	3,969
Short-term compensated absences	436	529
	<u>8,260</u>	<u>12,081</u>

14 RECONCILIATION OF MOVEMENT IN ACCRUED AND DEFERRED GRANT INCOME

	2017 £'000	2016 £'000
Accrued income	3,307	3,451
Deferred income	(4,250)	(3,969)
	<u>(943)</u>	<u>(518)</u>
Net deferred research grant income at the beginning of the year	(518)	(119)
Research grant income received during the year	(13,389)	(11,413)
Research grant money released to SOFA during the year	12,964	11,014
	<u>(943)</u>	<u>(518)</u>

15 FUNDS

	Balance April 1 2016 £'000	Net incoming/ (outgoing) resources £'000	Transfer between funds £'000	Balance March 31 2017 £'000
<i>Unrestricted funds:</i>				
General	2,322	1,262	497	4,081
Designated	6,134	(806)	-	5,328
<i>Restricted non endowment funds:</i>				
Fixed Asset Fund	269,003	(8,446)	210	260,767
<i>Other restricted funds:</i>				
Fixed Asset Project Support Costs	3,403	-	(360)	3,043
Equipment	842	(246)	-	596
BCIC Projects	21	(19)	-	2
Capital Rebuild Grant	993	113	(1,106)	-
Additional Construction Support	1,764	941	(2,705)	-
DP2 phase2 occupation	-	-	3,961	3,961
Innovation at Pirbright	-	209	-	209
Hostel	1,006	-	(155)	851
Redundancy	-	342	(342)	-
Other	57	9	-	66
	<u>285,545</u>	<u>(6,641)</u>	<u>-</u>	<u>278,904</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. This includes £179k for change management (2016: £445k), £4,912k for occupation costs relating to capital projects (2016: £5,363k) and £237k for other projects (2016: £326k).

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.

	2017 £'000	2016 £'000
<i>Fixed Asset Fund</i>		
Balance brought forward	269,003	264,543
Grants received	3,466	10,153
Depreciation/ impairment (note 6)	(12,461)	(11,500)
Revenue spend	549	(706)
Transfers	210	6,513
Balance carried forward	<u>260,767</u>	<u>269,003</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.

FUNDS (CONTINUED)*Other restricted funds*

Fixed Asset Project Support Cost grants have been received from BBSRC 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 been transferred to DP2 phase 2 occupation fund. As part of the ongoing development project funds from these reserves have been transferred to the Fixed Asset Fund.

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

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

The Innovation at Pirbright reserve contains funding received specifically to refurbish existing buildings and create a state of the art conference facility on the Pirbright site.

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	<u>497</u>	<u>-</u>	<u>(497)</u>

The transfers during the year are as follows:

- The Redundancy restricted fund transfer of £342,000 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 £155,000 has been made to set rents paid in the year against the restricted grant received for this purpose.
- Transfers of £1,106,000, £1,764,000 and £1,091,000 have been made from the Capital Rebuild Grant restricted fund, the Additional Construction Support restricted fund and the Fixed Asset restricted fund respectively to the DP2 phase 2 occupation restricted fund to finance elements of the remaining DP2 Phase 2 occupation.
- Transfers of £360,000 and £941,000 has been made from the Fixed Asset Project Support Cost restricted reserve and the Additional Construction Support restricted fund respectively to the Fixed Asset restricted fund in respect of construction in future years.

16 ANALYSIS OF NET ASSETS BETWEEN FUNDS

	Fixed assets £'000	Net current assets £'000	Total £'000
Unrestricted funds	133	9,276	9,409
Restricted funds			
Capital fund	235,088	10,162	245,250
Revaluation reserve	15,517	-	15,517
Other restricted funds	-	8,728	8,728
	<u>250,738</u>	<u>28,166</u>	<u>278,904</u>
			£'000
Revaluation Reserve			
Revaluation reserve brought forward			18,758
Depreciation charged (note 9)			<u>(3,241)</u>
Revaluation reserve carried forward			<u>15,517</u>

17 FINANCIAL INSTRUMENTS

	2017 £'000	2016 £'000
Financial assets measured at amortised cost	6,948	6,147
Financial liabilities measured at amortised cost	<u>(2,371)</u>	<u>(1,312)</u>
	<u>4,577</u>	<u>4,835</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:

	2017 £'000	2016 £'000
Authorised but not contracted for	<u>2,607</u>	<u>45</u>

The capital commitments of £2,607k (2016: £45k) will be significantly funded by the BBSRC.

COMMITMENTS (CONTINUED)(b) *Operating lease commitments*

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

	2017 £'000	2016 £'000
Land and buildings		
Within one year	266	266
In two to five years	1,065	1,065
In over five years	<u>1,012</u>	<u>1,345</u>
Plant and Machinery		
Within one year	39	39
In two to five years	<u>39</u>	<u>77</u>

19 CONTINGENT ASSETS AND LIABILITIES

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 and capital grant in excess of the financing requirements. No such liabilities existed at either 31 March 2017 or 31 March 2016.

20 RELATED PARTY TRANSACTIONS**Biotechnology and Biological Sciences Research Council (BBSRC)**

The BBSRC provides substantial funding to the Institute. The 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 £151,676 (2016: £177,985) for other costs.

REFERENCE AND ADMINISTRATIVE DETAILS

Trustees: Professor Q McKellar CBE Chair

Dr T Kanellos

Mr R Louth

Dr V Mayatt

Sir B Ross

Professor D Rowlands

Mr M Samuel

Professor J Stephenson

Director of the Institute: Dr Bryan Charleston MRCVS

Secretary: Mr K A G Simpson BA ACMA

Registered office: Pirbright Laboratory
Ash Road, Pirbright
Woking, Surrey GU24 0NF

Auditor: Grant Thornton UK LLP
Statutory Auditor
Chartered Accountants
30 Finsbury Square
London
EC2P 2YU

Bankers: Lloyds Bank plc
5 High Street
Swindon SN1 3EN

Solicitors: Charles Russell LLP	Penningtons Manches LLP
Buryfields House	3 Worcester Street
Bury Fields	Oxford OX1 2PZ
Guildford	
Surrey GU2 4AZ	





THE  **Pirbright**
INSTITUTE

Preventing and controlling viral diseases

The Pirbright Institute
Ash Road, Pirbright, Surrey, GU24 0NR
Telephone: +44 1483 232441
email: communications@pirbright.ac.uk
www.pirbright.ac.uk

