



**Genome Research Limited  
Annual Report and  
Financial Statements  
For Year Ended  
30 September 2017**



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# Chief Executive's Introduction

Genome Research Limited ("GRL") encompasses a number of activities undertaken by our operation at the Wellcome Genome Campus. They are the Wellcome Trust Sanger Institute ("Sanger Institute"), Connecting Science, and Enterprise and Innovation. All of these activities work in the fields of Genomes and Biodata and are very much interlinked.

We face unparalleled opportunities – and challenges – offered by the confluence of powerful new technologies, paradigm shifts in understanding, daring scientific ambition and global cooperation. More than two decades ago the first reference human genome was born from the scientific community coalescing to pool knowledge, technologies and funding at a scale never before seen.

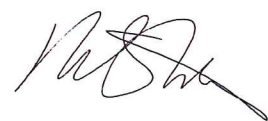
The Sanger Institute uses genome sequences to study human and pathogen biology in order to improve human health. The dialogue between genomes and their environment is continually shaping human and pathogen genomes, creating a flux that impacts every aspect of disease and health. From the rise of drug resistance in malaria to finding the drivers of cancer, and from the sources of rare developmental disorders to healthy bacterial mixes in the gut microbiome, genomic research plays a pivotal role in understanding health and disease.

Connecting Science utilises all aspects of the science taking place on the Wellcome Genome Campus, and beyond, to inspire new thinking, spark conversation, and support learning. Touching a vast range of audiences from school and community groups, scientists and healthcare professionals we can develop tools, courses and meetings, and play

our part in democratising the uptake and application of this new area of science.

This year the Wellcome Genome Campus BioData Innovation Centre was officially opened by the Prime Minister. The Centre houses start-up and spin-out companies utilising genomes and biodata, and provides opportunities to collaborate, engage and share ideas across the Wellcome Genome Campus. We are delighted to see collaborations emerging and new ways of thinking shaping our work.

The past years have transformed genomic research, opening new vistas of possibility. The coming years promise even greater revolution. The only way to explore such a vast world of connections is through inclusive and equitable research dialogue: between scientists and non-scientists, industry and academe, investigators and healthcare, and researchers and governments. GRL was established to facilitate such collaborative working – first as part of the Human Genome Project and now by laying the foundations for sustainable global networks for research, businesses and training, education and cultural activities emanating from genomes and biodata.



Professor Sir Mike Stratton,  
Director, Wellcome Trust Sanger Institute  
Chief Executive, Wellcome Genome Campus

# TIMELINE OF HIGHLIGHTS

2016



**HUMAN CELL ATLAS**

Human Cell Atlas Initiative international meeting

Dr Sam Behjati given Robert J Arceci International Award



14 new childhood developmental disorders found

Cancer knowledge banks for personalised therapy feasible

New driver process found in 33 breast cancer genome hotspots

Global Genomics Nursing Alliance founded



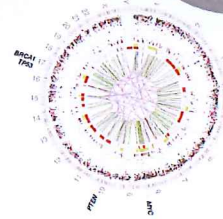
Dr Sarah Teichmann made Helmholtz International Fellow

First mutations in human life discovered



Method produces millions of brain and muscle cells in days

1 in 5 breast cancer patients could take existing drugs



Oct ..... Nov ..... Dec ..... Jan ..... Feb ..... Mar

Genetic damage of regular cigarette smoking quantified



Sanger spin-out – Microbiotica – launches

**microbiotica**

Sanger wins £20 million CRUK 'Grand Challenge' award

UK PM opens Biodata Innovation Centre & Bridget Ogilvie Building

Drug target for Primary Sclerosing Cholangitis found

Specific Technologies joins BioData Innovation Centre

**specific technologies**

Sanger spin-out – Kymab – secures \$100 million



Landmark BLUEPRINT project publishes findings

Sigma joins BioData Innovation Centre

Malaria vaccine target's invasion partner uncovered

**SIGMA**

Genetic marker for resistance to piperazine found in Cambodia

Multi-drug resistant infection in cystic fibrosis patients spreading globally



HiPSci delivers UK's largest human stem cell resource

Students from 9 African countries study malaria experimental genetics

Lab-grown artificial bile ducts heal mice

New Global Health Research Unit at Centre for Genomic Pathogen Surveillance

Healthy heart secrets revealed by isolated Greek villages

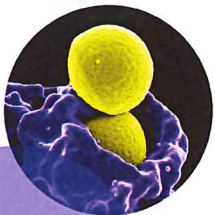


Malaria parasite needs 2/3rds of genes for growth

Modern-day genomes suggest Biblical Caananites weren't wiped out

Academy of Medical Sciences recognises Dr Matt Hurles

Natural resistance to malaria explored



MRSA emerged years before methicillin use

Richard Durbin to receive the Royal Society's Gabor Medal



Apr

May

Jun

Jul

Aug

Sep

Chlamydia drug targets found using CRISPR and stem cells

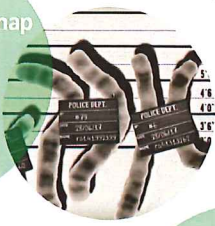
Bone cancer patients could benefit from existing drugs



Mystery of Icelandic horse epidemic solved

Mouse's internal clock shows ageing mechanisms

High-resolution map of Inflammatory Bowel Disease suspects made



Baby's DNA affects mother's pre-eclampsia risk



Campus self-driving vehicles feasibility study funded

Genomics and Campus archaeology combine in Hidden Lives exhibition

SciBite joins BioData Innovation Centre

Counselling skills for genomics added to University of Cambridge Masters

Prof Ele Zeggini becomes a World Economic Forum Young Scientist



Breast cancers spread at later stages

# Trustees' Report

The Directors of Genome Research Ltd ("the Company" or the "Charity") who are also the Trustees of Genome Research Limited for the purposes of the Charities Act 2011, present their Annual Report and audited Financial Statements for the year ended 30 September 2017.

## Objectives and activities

Genome Research Limited's ("GRL") objects are:

- Advance understanding of biology using genome sequences and biodata.
- Apply genome science for human health and other societal benefits.
- Foster discussion of the scientific, medical and wider implications of genomes.

## Vision

Motivated by the remarkable challenges and opportunities presented to 21st century science by genome sequences, the ambition of GRL over the next two decades is to strengthen its well-established scientific foundations and to build on them, such that the Wellcome Genome Campus becomes an international centre for scientific, business, cultural and educational activities emanating from Genomes and Biodata.

The objectives are delivered via three main activities as follows:

- Sanger Institute
- Connecting Science
- Enterprise and Innovation.

## Mission

### Sanger Institute

One of the major challenges and opportunities for biological science in the 21st century is to understand and utilise the DNA sequences that constitute the genetic code of humans and other living organisms.

The Sanger Institute uses genome sequences to increase understanding of human and pathogen biology in order to improve human health.

To achieve this goal, we conduct basic and translational research delivered across five different research-focused programmes:

- Cancer, Ageing and Somatic Mutation
- Cellular Genetics
- Human Genetics
- Infection Genomics
- Malaria.

Our scientific niche is in large-scale, high-throughput biology, often incorporating systematic genome-wide screens. This is enabled by major data generation platforms in DNA sequencing, cellular genetics and mouse genetics with an accompanying large IT platform supporting computational data interpretation and analysis.

An overarching theme of our science is genome variation; naturally occurring and engineered, inherited and somatic;



The Bridget Ogilvie Building and EBI South Building



explored in human beings, pathogenic microorganisms, human cells and mice. These studies of genome variation will provide insights into human and pathogen evolution, the phenotypic consequences of genome variation and the processes which cause mutations. We will generate deeper understanding of the genetic causes, pathogenesis and epidemiology of human disease, of human development and ageing and of human gene function. We aim to identify therapeutic and vaccine targets and to explore the genomic changes influencing sensitivity and resistance to such agents.

The Sanger Institute sits at the centre of a global network of science, engaging proactively with researchers external to the Institute, enabling and empowering their science and extending our scientific repertoire through their biological insights and questions. A major priority of our research portfolio is the scientific questions arising from the health issues facing low- and middle-income countries. We continue to champion the policy of early and open data release and ensure resources generated through our research enable the research of others through publicly accessible databases.

## Connecting Science

Connecting Science's mission is to enable everyone to explore genomic science and its impact on research, health and society. It connects researchers, health professionals and the wider public, creating opportunities and spaces to explore genomic science and its impact on people. Connecting Science inspires new thinking, sparks conversation, supports learning and measures attitudes, by drawing on the ground-breaking research taking place on the Wellcome Genome Campus.

## Enterprise and Innovation

Enterprise and Innovation represents a key third pillar in delivering our ambitious vision for the Genome Campus. We aspire to develop a more innovative Campus culture; to support those translational and entrepreneurial opportunities that arise from Campus research; and to establish the Genome Campus as a leading location for innovative Genome and BioData businesses seeking to benefit from, and contribute to, the exceptional Campus intellectual capital. Essential to our success is the creation of a diverse and strongly integrated Genome and BioData community with free flowing exchange of perspectives across organisations and sectors.

\*Clustered Regularly Interspaced Short Palindromic Repeats

\*\*Human Induced Pluripotent Stem Cells Initiative

# Strategic Report

## Achievements and Performance

This year we celebrated many achievements made by our three activities – Sanger Institute, Connecting Science and Enterprise and Innovation. This report highlights just a few examples — more can be found on [www.sanger.ac.uk/](http://www.sanger.ac.uk/). These achievements often reflect the results of many years of research. Scientific research is inherently cumulative and progressive, opening up new knowledge, understanding and applications. The majority of our research supports hypothesis-based investigation; by definition, the outcome of such activities cannot be predicted with certainty but the highlights below demonstrate how our people produce valuable information and insight in support of our overall mission.

### i) The Sanger Institute

Below are presented selected highlights from each of the scientific programmes. For more scientific achievements in 2016, please [see our Sanger Institute Highlights 2016](#).

#### Cancer, Ageing and Somatic Mutation

- Mutational signatures employed to quantify the level of genetic damage caused by smoking in different organs of the body.
- Acute myeloid leukaemia study finds personalised therapy is possible, using cancer knowledge banks.
- Archaeological traces of human embryo development seen in adult cells. Results show that one of the cells from the two-cell embryo stage becomes more dominant and makes up a higher proportion of the adult body.
- A large number of breast cancers found to be genetically similar to those due to faulty *BRCA1* or *BRCA2* genes, meaning that more people could benefit from existing drugs.

#### Cellular Genetics

- Enhanced CRISPR\* lets scientists explore the changing role of genes as the cells develop into tissues such as liver, skin or heart. Regenerative medicine to reduce the need for liver transplants takes a step forward: artificial bile ducts successfully grown in the laboratory and transplanted into mice.
- HiPSCi \*\* offers scientists UK's largest human stem cell research resource.

### Human Genetics

- Isolated Greek villages reveal genetic secrets that protect against heart disease. Genetic variant identified that appears to lower levels of 'bad' natural fats – triglycerides – and 'bad' cholesterol – very low density lipoprotein cholesterol (VLDL).
- High-resolution map has been produced that will help scientists pinpoint which genetic variants have a causal role in Inflammatory Bowel Disease (IBD).
- As part of the landmark BLUEPRINT project to study genetic variation in blood cell development, the Sanger Institute led two of the six papers published in the journal *Cell*.

### Infection Genomics

- *Staphylococcus aureus* acquired the *mecA* methicillin resistance gene (to become MRSA) in the mid-1940s, years before the drug was discovered.
- A life-threatening multi-drug resistant infection is spreading globally among people with cystic fibrosis (CF), posing fresh challenges to infection control practices in hospitals.
- Combining CRISPR and stem cells created an innovative new technique to study how chlamydia invades our immune system.

### Malaria

- PlasmoGEM malaria gene function study shows that two thirds of the malaria parasite's genes studied are essential for growth, meaning there are many more drug targets than previously thought.
- Natural resistance to malaria linked to variation of glycoporphin gene in human red blood cell receptors.
- Genetic marker found for recent emergence of resistance to piperazine anti-malaria treatment in Cambodia. This work will help health officials to monitor its spread.

More achievements are listed in the Timeline on pages 6 and 7, each bubble is a link to more detail on the Sanger Institute's website.

Other achievements of Sanger Institute can be found below:

### Faculty

Over the past year our researchers have made a substantial contribution to genome research across a broad range of scientific areas. We have published 569 research papers in peer-reviewed journals, of which 155 had a Sanger Institute first and/or last name author. In addition, 58 were in the following



We support the development of our female scientists at all levels on Campus

Our training programmes inspire and equip the next generation of leaders in genomic research



high-profile publications: 19 *Nature*, 23 *Nature Genetics*, 6 *Cell*, 2 *New England Journal of Medicine* and 8 *Science* and, of these, 19 were first and/or last author. Our discoveries have roots in both basic and applied scientific questions and have formed a significant component of the wave of global genome science that is reshaping clinical management of inherited disorders, cancer and infection.

#### Associate Research Programme

During the year we have received funding from Wellcome of £13.8M for our Associate Research Programme. This programme provides opportunities to enrich and diversify our science portfolio, and for external organisations and scientists to access both the intellectual environment and data-generation/data analysis infrastructure. The aim is to enable scientific impact that cannot be delivered either (i) without Sanger's unique science and infrastructure; or (ii) through more conventional third-party academic collaborations.

#### Awards and Prizes

The research achievements of Sanger's scientists have been recognised by many outside bodies through prizes and awards. The awardees range from Faculty members through post-doctoral fellows to graduate students.

#### Equality, Diversity and Inclusion Programme

Women in science are represented in diminishing proportions at higher career levels and many leave

altogether. At GRL, 55 per cent of PhD students and post-doctoral fellows are women, compared to 17 per cent of core Faculty. We have developed a broad strategy to address this issue and, since 2011, our active Campus-wide 'Sex in Science' (SiS) programme has been examining gender balance and driven changes to our Faculty recruitment process and support for women scientists.

GRL has been a member of the national Athena SWAN Charter since 2013, and we had our Bronze Award renewed in 2016. In 2017, our programme of work was expanded to encompass broader diversity considerations and we are implementing an organisation-wide Equality, Diversity and Inclusion (EDI) programme of work. The key objectives are to catalyse cultural change, develop partnerships, communicate activities and champion our work at a national and international level and position ourselves as a sector leader in the area of EDI.

The EDI Programme is supported by an EDI Forum, which provides long-term support and leadership and champions EDI across the Campus and beyond. There is strong commitment to the programme, as demonstrated by an annual rolling SiS and Athena SWAN budget and full-time senior management support.

#### Research Training

The Sanger Institute provides an exceptional intellectual environment and infrastructure for

training and inspiring the next generation of leaders in genomics research. The Institute currently has 132 postdoctoral fellows, on time-limited appointments of 3-5 years, from 35 countries, supported by core funds and by eight different funding agencies.

#### Graduate Programme

The cutting-edge academic atmosphere, coupled with our exceptional facilities and resources, provides a unique training environment for science graduates. The Graduate Programme aims to use the physical and academic resources of the Sanger Institute to inspire and train the next generation of leaders in genomic research. The Graduate Programme is affiliated with the University of Cambridge, and all Sanger Institute students graduate with a Cambridge degree, a globally recognised mark of excellence.

Specifically we operate a four-year PhD programme which accepts 12-15 graduate students each year from all over the world. We are also part of the University of Cambridge Clinical PhD training programme jointly funded by ourselves and Wellcome, and we accept 1-4 resident/registrar status clinicians per year who are expected to submit their PhDs within three years.

In addition, we have established an MPhil Programme for three students per year from low-

and middle-income countries in order to facilitate their progress onto competitive graduate programmes. Including those funded by third parties, we currently have 80 PhD students and 6 MPhil students from 33 countries.

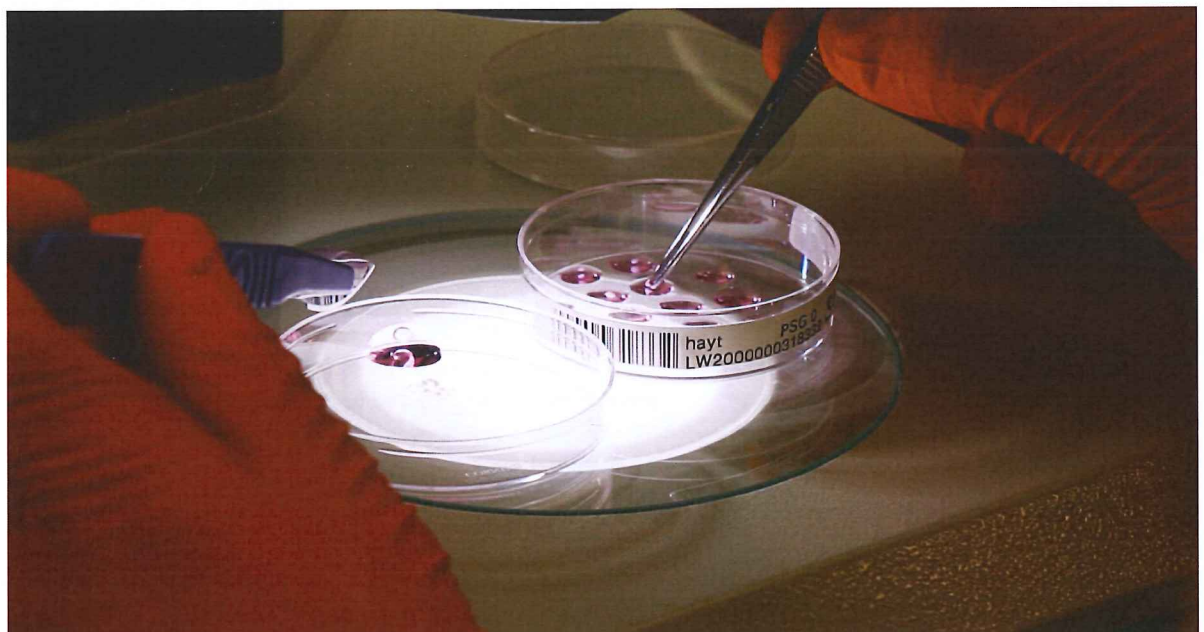
To date the Sanger Institute has had a total of 188 students successfully complete their PhD degree, of whom 15 were clinical PhD students. A further 11 students have successfully completed an MPhil degree.

The cohort of 110 PhD students in the 2006-2012 intakes has maintained an average four-year submission rate of 90 per cent. While we strive for 100 per cent submission within four years and monitor progress very carefully to try to ensure it, in most years one or two students fail to make the deadline, for an array of reasons. In all years however, we have exceeded the 70 per cent threshold for four-year submission expected by the Research Councils.

#### Next destination of our students

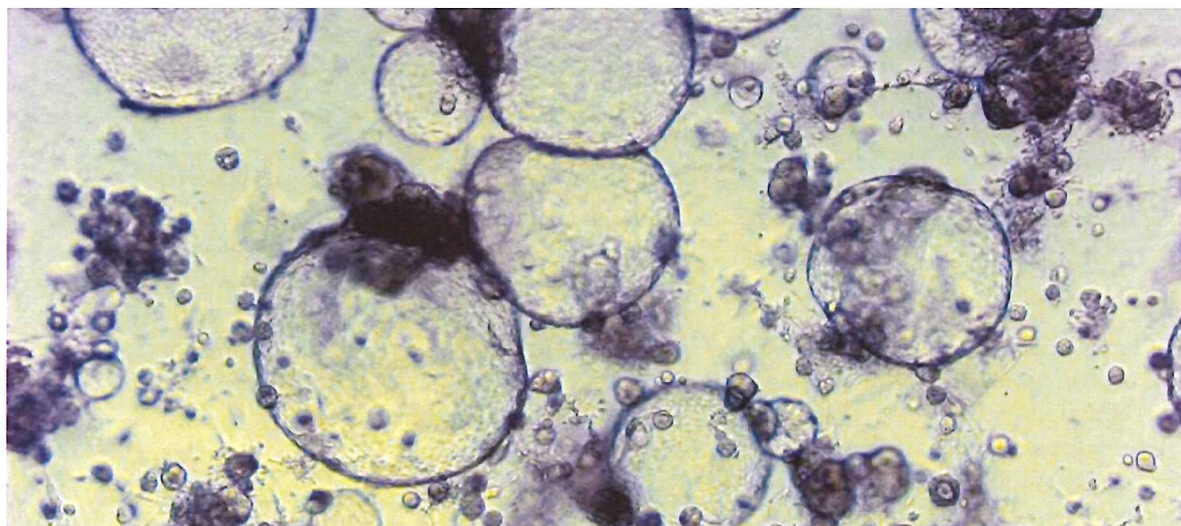
We keep a comprehensive record of all the graduate students (188 PhD, 11 MPhil) who have trained at the Institute.

Of the 199 graduate student alumni to date, 28 hold faculty positions around the world. At least a further 95 are working as researchers in academia



Generating well-characterised cell lines in the Cellular Generation and Phenotyping (CGaP) laboratory

Our insights are built on basic research that employ the latest genomic, biological and computational innovations, including organoids



or in industry, and 27 are training to be or are working as clinicians, of whom many are actively carrying out research, some as principal investigators.

Our graduates are to be found in many top research establishments such as Harvard, Berkeley, Stanford, Oxford, Imperial College, the Karolinska Institute, the Crick Institute, the Gurdon Institute and the London School of Hygiene and Tropical Medicine, and companies such as Illumina, GSK, Syngenta and AstraZeneca.

#### Scientific Operations

Our science uses high-throughput, large-scale biological research which is a central defining characteristic distinguishing our science from that of most research institutes and universities. Conduct of science at this scale is critically dependent upon the existence of major core facilities and platforms organised into complex pipelines. These require substantial infrastructure, subject matter experts and professional organisation and management.

The Institute has five major core facilities:

- DNA pipelines.
- Animal facility (including mouse pipelines and mouse informatics).
- Cellular Genetics and Phenotyping facility.
- Single Cell Genomics.
- IT.

#### Translation

Translation Office activities have been integrated with those of the newly established BioData Innovation Centre ("BIC") and Entrepreneurship programme, forming a single Enterprise and Innovation team based in the BIC.

In the past year Sanger has launched another spin-out company, Microbiotica Ltd, which aims to develop novel therapeutics to address pathogenic imbalances in our so-called "second genome" - the community of microorganisms that inhabit our bodies. Strong progress has also been made by existing spin-out companies Kymab Ltd, Congenica Ltd and VHSquared Ltd, with Kymab Ltd entering their lead programme into clinical development.

The COSMIC sustainability programme has shown excellent adoption, enabling Sanger to double the resource dedicated to providing a global cancer information resource. We have broadened our relationship with GSK, initiating cross-organisation translational seminars, developing a mentoring programme, and exploring synergistic translation opportunities for our organisations to better deliver societal benefit.

In December 2016 Sanger delivered a course on Translating and Commercialising Genomic Research which was exceptionally well reviewed. Attendees included Campus, national and international delegates. Cold Spring Harbor have expressed a keen interest in co-hosting future

events at alternating locations.

At the influencing level Sanger is strongly represented on the UK Bioindustry Association Genomics Group and participated in their annual Parliament day to promote awareness of the translational opportunities and challenges for genomic science.

#### Resources for the research community

Scientists at the Sanger Institute generate several types of biological resources to support research conducted by our Faculty or collaborators. All are subsequently released for the wider research community to use, together with relevant and appropriate metadata. Biological resources include engineered, heterozygous mutant mouse embryonic stem cells, knockout mice, mutant zebrafish, and human iPS (induced Pluripotent Stem) cells. Genomic science generates vast volumes of biological data and, in order to curate, organise and present data, we established publically accessible databases and organised data resources. These include Decipher, Havana, COSMIC and others.

### ii) Connecting Science

Our achievements over the past year include:

**Training and Learning:** The Advanced Courses and Scientific Conferences team have developed and delivered more than 50 events, reaching approximately 3,500 research and healthcare professionals. New events for this year have included a large-scale conference on translational bioinformatics, a hands-on laboratory course on

fungal pathogen genomics, and an Overseas Course in Ghana on malaria experimental genetics.

**Engagement:** The Public Engagement team have worked with Campus researchers to deliver an extensive programme of on- and off-site activities for a wide range of audiences. Highlights have included practical DNA barcoding workshops demonstrating how species can be identified using sequence information, and a series of school engagement events based around the 'Hidden Lives' exhibit in the Cultural Zone, which focuses on the genomics of ancient remains found on the Campus.

**Meeting and Event Spaces:** The stunning facilities at the Conference Centre continue to attract new clients, and the team has developed a new events management service to support life science clients organise meetings and conferences on Campus.

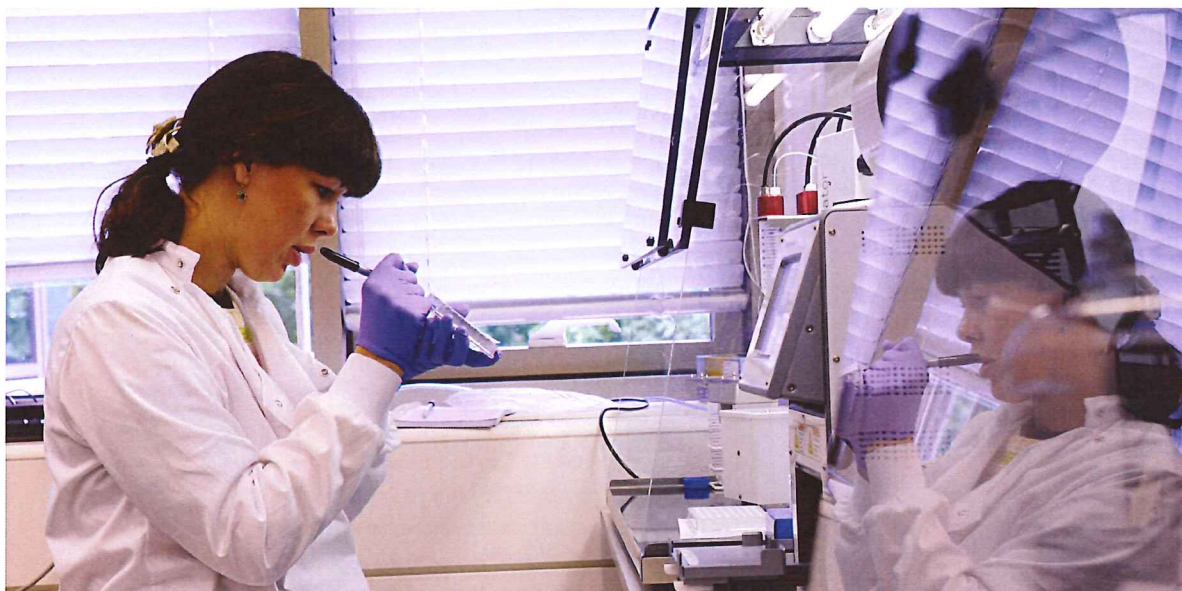
**Society and Ethics Research:** New to Connecting Science, the team gathers quantitative and qualitative data on public attitudes to genomic science and its applications, and uses the findings to impact policy and understanding. Their research has produced several peer-reviewed publications, and highlighted the need for skills development within many healthcare professional groups, such as genetic counsellors.

### iii) Enterprise and Innovation

The Enterprise and Innovation team have recruited, at a senior level, both an Entrepreneurship and Innovation Centre Manager and a Marketing Manager. These posts work with the existing Translation Office team in our newly formed Enterprise



The Single Cell Laboratory, where research supporting the Human Cell Atlas initiative is being carried out



and Innovation capability. In addition to the Translation achievements described above there has been excellent progress in building a Campus community of innovative BIC companies and developing a more entrepreneurial Campus culture.

Interest from Genome and BioData companies seeking to co-locate on Campus has exceeded expectations. The BIC is now at 90 per cent capacity, housing eight organisations spanning public and private sectors, representing diverse aspects of the genomics value chain, and comprising Campus spin-out companies, Genomics England Limited activities and organisations from mainland Europe, Asia and Silicon Valley in the United States.

We have continued our focus on building a sense of community within the BIC, with a view to this being the centre of a Campus innovation and entrepreneurial ecosystem, through a series of events, open days and other activities to stimulate Campus engagement. We have begun our first round of BIC annual reviews. Feedback is exceptionally positive with particular praise for the efforts made to integrate companies into Campus activities.

Broader efforts to inspire Campus entrepreneurial intent include the launch of a BIC Affiliate programme to mentor and support nascent entrepreneurial ideas including those from a

Sanger student team that subsequently won a Cambridge business creation competition; and a series of Bench to Boardroom seminars delivered by experienced entrepreneurs. These form part of a range of initiatives spanning the entrepreneurial pathway from inspiration to business.

## Financial review

### Results

This is the second year of the 2016-2021 quinquennium award from Wellcome which GRL can draw down as required to meet its objectives as set out in the 2016-2021 scientific plan.

Income for the year totalled £135.3million (2016 £125.1 million) of which 78% (2016: 82%) was provided by Wellcome. Resources expended in furtherance of its activities totalled £143.9million (2016 £131.2 million). The net deficit for the year was £8.6million (2016 £6.1 million). This deficit has arisen due to the accounting requirements of the defined benefit pension scheme.

The deficit of £135.0 million (2016: £203.0 million) representing the year-end funding position on the staff defined benefit pension scheme is recognised in the financial statements as a 'pension liability' on an FRS 102 basis. This deficit represents the difference between an assessment of the liabilities of the pension funds and the current value of their underlying assets. The amount of the

deficit is subject to considerable variability because it depends on a valuation of assets at the year-end date and a range of actuarial assumptions impacting the liabilities.

In 2017 there has been a 0.4% increase in the discount rate assumption reflecting the increase in long-dated corporate bond yields. FRS102 requires discount rates to be based on corporate bond rates of an appropriate duration, regardless of actual investment strategy and actual investment returns expected. The major assumptions used by the actuary are shown in note 7.

A full triennial actuarial valuation of the Genome Research Limited Pension Plan was carried out as at 31 December 2015. This valuation showed that the plan was 82% funded with a deficit of £24.8 million.

Wellcome and GRL previously agreed with the GRL Pension Plan Trustee to put in place a Deed of Guarantee. The obligations of the Deed, guaranteed by Wellcome, are that GRL pays the necessary contribution as agreed with the Trustee and the Plan Actuary and that any deficit in the funding identified by a full actuarial valuation will be repaid over a period of five years or less. The Deed provides security to the pension scheme and allows the Pension Trustees to take a longer-term view when deciding their investment strategy.

Wellcome agreed to fund £6.2 million per annum over five years to 31 December 2020 payable to GRL

under the terms of the guarantee.

An approximate annual update as of 31 December 2016 was carried out and showed that the fund was 83% funded with a deficit of £33.9m. Wellcome agreed to increase the annual deficit contribution to £7.8m with effect from 1 January 2017 to clear the deficit over five years. £3.9m was paid in September 2017 and Wellcome committed to pay £3.9m in December 2017.

### Reserves policy

The restricted and endowment funds at the end of the year were £165 million before accounting for the pension deficit (2016: £161 million). The impact of the pension deficit has reduced the reserves to a net asset of £30 million (2016 net liability of £42 million). As referred to above in the results section, this is due to the FRS 102 valuation of the defined benefit pension scheme. The Deed of Guarantee ensures that, for as long as GRL is a subsidiary of The Wellcome Trust Limited, as Trustee of the Wellcome Trust, Wellcome will fund any pension deficit as required.

The restricted funds consist of capital funds for buildings and capital equipment, a research fund and an investment fund. The year-end fund balances on the capital funds represent the net book value of the tangible fixed assets purchased from those funds. The balance on the year-end research fund represents restricted income funds available to spend in furtherance of its charitable purposes. The balance

Our coffee and dining spaces allow ideas to flow freely and vital research connections to form





Wellcome  
Genome  
Campus  
Conference  
Centre



on the endowment fund represents funds for activities specified by the donor. The movement on reserves is shown in note 18 to the financial statements. GRL has no unrestricted income or reserves that can be allocated at the discretion of the directors.

GRL does not consider it necessary to hold reserves due to the nature of the funding arrangement with Wellcome and as such there is no target level. Wellcome provides sufficient funding to enable the charity to finance its general activities and meet its obligations as they fall due. This funding structure is reviewed every five years. The research fund which arose due to receipt of Research and Development Tax Credits, (referred to in note 10) is available to spend on its charitable activities in addition to its core funding from Wellcome.

### Expenditure policy

For planning purposes an annual budget is agreed with Wellcome. The GRL Board monitors the expenditure of GRL and provides oversight of the internal budgetary and financial control mechanisms in place.

### Pensions Policy

GRL operates a funded defined benefit scheme and

a defined contribution scheme into which both employee and employer contributions are paid. There is further disclosure in note 7 to the Financial Statements and in the results above.

### Going Concern

GRL does not hold unrestricted reserves due to the nature of the funding arrangement with Wellcome. The restricted reserves before the pension deficit were £165 million (2016: £161 million). After considering the Deed of Guarantee for the GRL Pension Plan, the 2017-18 budget and strategic plan for 2016-2021 and the award from Wellcome for 2016-2021, the Directors are satisfied that it is appropriate to adopt the going concern basis in preparing the financial statements of GRL. If any liability arises as a result of the matters disclosed in note 10, Wellcome Trust core funds can be used to settle this liability as no unrestricted funds are held.

### Plans for future periods

Genomes constitute enormous quantities of data and their advent has fostered a dramatic expansion of computing- and mathematics-based biological sciences together with infrastructure to support their handling and interpretation. Their influence and impact will further accelerate over the next couple of decades through more research, diverse applications,

a flourishing of commercial entities using them and increasing familiarity of individual human beings with their own genomes, attended by societal consideration of their implications. The Wellcome Genome Campus and GRL will continue to provide a foundation for a broad front of activity over the next year to maximise scientific, health, economic and other benefits from Genomes and BioData.

The Sanger Institute's science will further explore rare and common genetic diseases, cancer and infection through studying genome variation, naturally occurring and engineered, to:

- understand how humans and pathogens evolve
- chart the processes of human development and ageing
- link genome variation to their phenotypic and functional consequences, from the single cell to the whole organism
- discover the molecular interactions between pathogens and hosts.

Connecting Science will continue to deliver a programme which addresses its key strategic objectives: to work with diverse communities to transform engagement with genomics; to impact policy, practice, and careers; and to establish the Wellcome Genome Campus as the recognised centre of excellence for learning and engagement with genomics. In the coming year they will open the Technology Zone, a new public engagement space

allowing visitors to experience the Sanger Institute sequencing facilities, deliver a new conference on the genomics of human evolution, and host the World Congress on Genetic Counselling.

The Entrepreneurship and Innovation team will continue efforts to integrate the diverse Campus activities, in order to realise new collaborations and other translational opportunities created by co-location. We are exploring how best to work with Wellcome to better deliver impact from the flagship science at the Sanger Institute. As BIC nears capacity there will be an opportunity to increase Campus entrepreneurship events and activities with the aim of delivering a first Campus hackathon, likely in collaboration with industry, in Q3 2018.

### Principal risks and uncertainties

The Directors have implemented a formal risk management process to assess financial and business risk and implement risk management strategies. They have identified the main risks GRL faces, prioritised them in terms of potential impact and likelihood of occurrence, and have identified means of mitigating the risks. The Directors have reviewed the adequacy of GRL's current internal controls. The directors are pleased to report that the charitable company's risk management conform with the guidelines issued by the Charity Commission and are compliant with ISO 31000.

The Audit and Risk Committee reviews the risk management policy, risk processes and the Institute



Risk	Nature of risk	Management of risk
<b>Campus Vision</b>	As academic research is at the heart of the Campus we need to ensure that the implementation of the Wellcome Genome Campus vision enhances discovery research.	Operational Review of current Campus Strategy led to the following actions: <ul style="list-style-type: none"> <li>• Senior and Operational leadership and management strengthened with new or upgraded role appointments;</li> <li>• Policy for the 'GRL product and services provision' developed to ensure service offerings do not adversely impact Sanger science; and</li> <li>• Series of communication activities and communications over the next two and a half years.</li> </ul>
<b>Recruitment of senior programme leaders</b>	Genomics is a specialist field with strong competition for senior people with the right leadership skills. Science is leading edge with fewer research leaders available. Age profile of senior leaders often means that they do not want to relocate. Visa immigration issues due to Brexit. Potential restriction/complication of movement of people, recruitment and retention due to Brexit.	HR improvement plan to attract and retain staff. Appointed Engagement Manager to improve staff engagement. Understanding the gaps and needs and making links with specialist agencies and academies. In-house talent development, apprentice/graduate scheme. Respond to government consultation on immigration issues after BREXIT. UK border agency workshops planned with European staff. Swift recruitment of key senior positions.
<b>Public perception of science activities</b>	Adverse public perception of genomic research leads to restriction of science activities through reduced funding opportunities, restrictive legislation and loss of local community goodwill.	Communications strategy to highlight resource/skill requirement. Strategic planning with other partners. A joint national engagement strategy is being formed. Expand range of engagement opportunities for campus scientists.
<b>Management information not available for monitoring and decision making</b>	Management information procedures, processes and systems do not produce relevant, timely and accurate information.	Improved management information and policies being developed to support decision making and the monitoring of the deliverables. Key service areas developing reporting structures and KPIs. Phase 1 of the Finance system upgrade completed; Phase 2 is due to be completed by mid 2018. Core HR system expected to go live by Oct 2017. DNA management information system to go live in March 2018.
<b>Cyber Security</b>	Risk of data loss, data corruption or data security due to system failure or hacking. Data and governance improvements required to meet legislative and business needs.	GDPR roadmap to respond to the Data Protection Bill introduced to Parliament in Sep 2017. User education programme ongoing. Disaster Recovery and Business Continuity Plan implementation - to commence implementation late 2017.
<b>Unable to deliver the full Science Strategy as defined in the five-year plan</b>	Significant budget pressures for the 2016-2021 Science Strategy.	Review current science platforms to ensure strategy for the next five years. Seek additional sources of funding. Review significant budget pressure areas.
<b>BREXIT</b>	Brexit can adversely affect GRL in many ways. Understand the impact of Brexit on science strategy, staff and communities we work with.	Working group established to consider the implications. Working closely with Wellcome's BREXIT Group to share information and experience.

Risk Register at each meeting. It also approves the annual risk-based internal audit plan that covers the major risks identified by management and the directors. It also monitors the reports from internal audit and progress against the audit plan and the progress against management actions arising from its reports.

The specific risks currently considered by the Directors to be the most serious are detailed in the table on page 19.

### Structure, governance and management

GRL is considered to be a wholly-owned subsidiary of Wellcome Trust for accounting purposes. Its sole member is Wellcome Trust Limited, as corporate trustee of the Wellcome Trust which appoints the GRL Board of Directors. The performance of the Directors is monitored by Wellcome Trust and any necessary development and training will be advised and managed by Wellcome Trust.

Genome Research Trading Ltd is a 100% subsidiary of GRL. Hinxton Hall Ltd is a charitable company, and has only two members: The Wellcome Trust Ltd as corporate Trustee of Wellcome Trust and GRL.

### GRL Board of Directors

The GRL Board has overall legal responsibility and accountability for all activities of the Sanger Institute and for all other GRL activity at the Wellcome Genome Campus. It approves the management structure and operating budgets of the Sanger Institute and Wellcome Genome Campus and approves major policies such as on intellectual property. During 2016/17 the GRL Board met on three occasions.

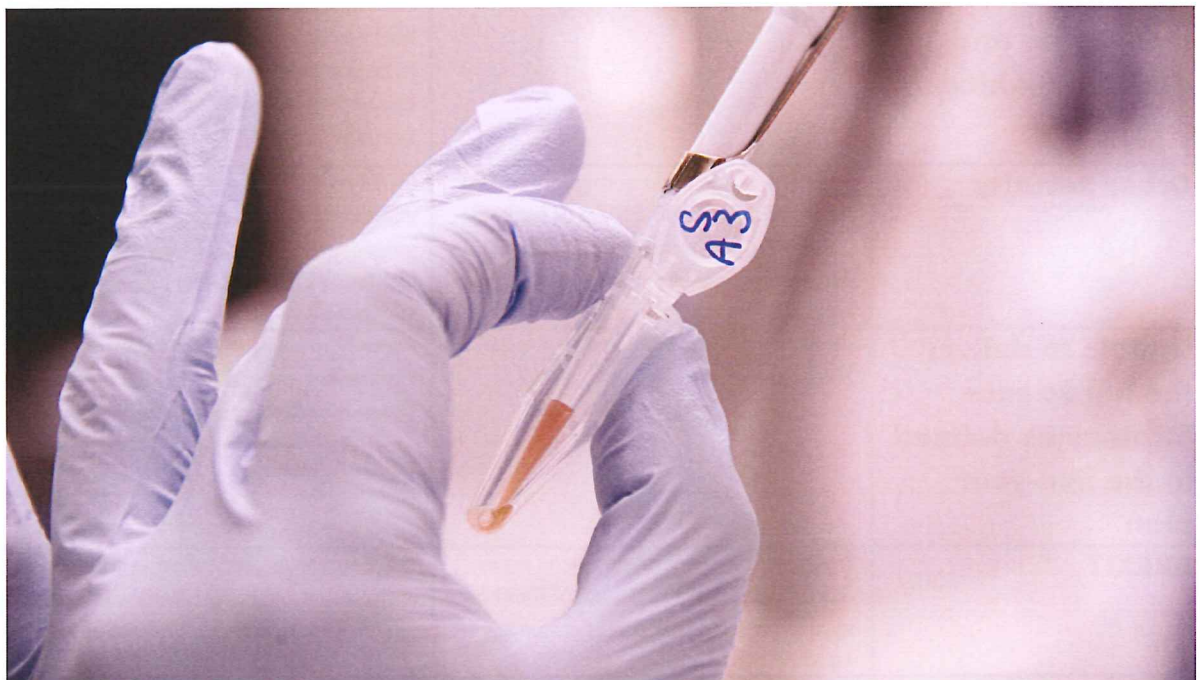
A list of Directors is shown on page 46.

### GRL Executive Board

The GRL Executive Board (chaired by the Director of the Institute who is also Chief Executive Officer of GRL ) has delegated responsibility from the GRL Board to oversee the implementation of GRL's strategy. The GRL Executive Board includes representatives from each of the main themes of GRL's strategy: Sanger Institute, Connecting Science, and Enterprise and Innovation.

The management of each part of the strategy is delegated as follows:

The Sanger Board of Management (BoM), chaired by the Director of the Institute, is responsible for the delivery of our scientific strategy.



Conference Centre and Hinxton Hall



The Campus Management Board (chaired by the Campus Commercial Director) is responsible for the development and management of the buildings and infrastructure of the Wellcome Genome Campus and for oversight of the Enterprise and Innovation strategy.

The Connecting Science Management Board chaired by the Director of Connecting Science is responsible for delivery of our education and public engagement activities.

### Reporting and internal control

The GRL Board receives reports from the BoM and the Campus Executive on the following specific matters:

- risk management policies;
- conflicts of interest policy;
- any significant issue affecting the staff of GRL, including health and safety, HR policies and employment disputes; and
- financial budgeting and reporting.

The systems of internal control are designed to provide reasonable, but not absolute, assurance against material misstatement or loss. They include:

- a five-year strategic plan and an annual budget approved by the directors;
- regular consideration by the Directors of

financial results;

- regular review of key processes by internal audit;
- delegation of authority and segregation of duties; and
- identification and management of business and financial risks.

### Audit and risk committee

The purpose of the Audit and Risk Committee is to report to the Board on:

- the governance structure;
- the effectiveness of financial systems, processes and finance function;
- the systems of internal control;
- the integrity and transparency of the financial statements;
- compliance with legal and regulatory requirements;
- policies and procedures relating to fraud or misappropriation;
- the external and internal auditors' qualifications, independence and performance; and
- financial budgeting and reporting.

The members of the Committee were appointed by the Board and are independent of GRL staff.

Members are as follows:

- Mr Tim Livett (Chair)
- Ms Suzy Nibloe.

The Committee has met four times during the year.

### Remuneration Committee

The GRL Remuneration Committee ensures that remuneration arrangements support the strategic aims of GRL, including approving senior staff salaries on behalf of the directors. Further details of the committee's responsibilities are noted in the remuneration policy below.

The members of the Committee were appointed by the Board and are independent of GRL staff.

Members are as follows:

- Dr Jeremy Farrar (Chair)
- Professor Dame Kay Davies
- Mr Tim Livett
- Professor Patrick Vallance.

The committee has met four times during the year.

The GRL Board appoints the Remuneration Committee, the members of which are all Directors.

Responsibilities of the Remuneration Committee are:

- Approving the reward strategy and policies for the remuneration of staff, including benefit plans;
- Determining individual remuneration packages and terms and conditions of employment for the members of the Executive Board;
- Exercising any powers of, and approving any decisions required by, the Trust in respect of the Genome Research Limited Pension Plan; and
- Ensuring remuneration practices and policies facilitate the employment and retention of talented people.

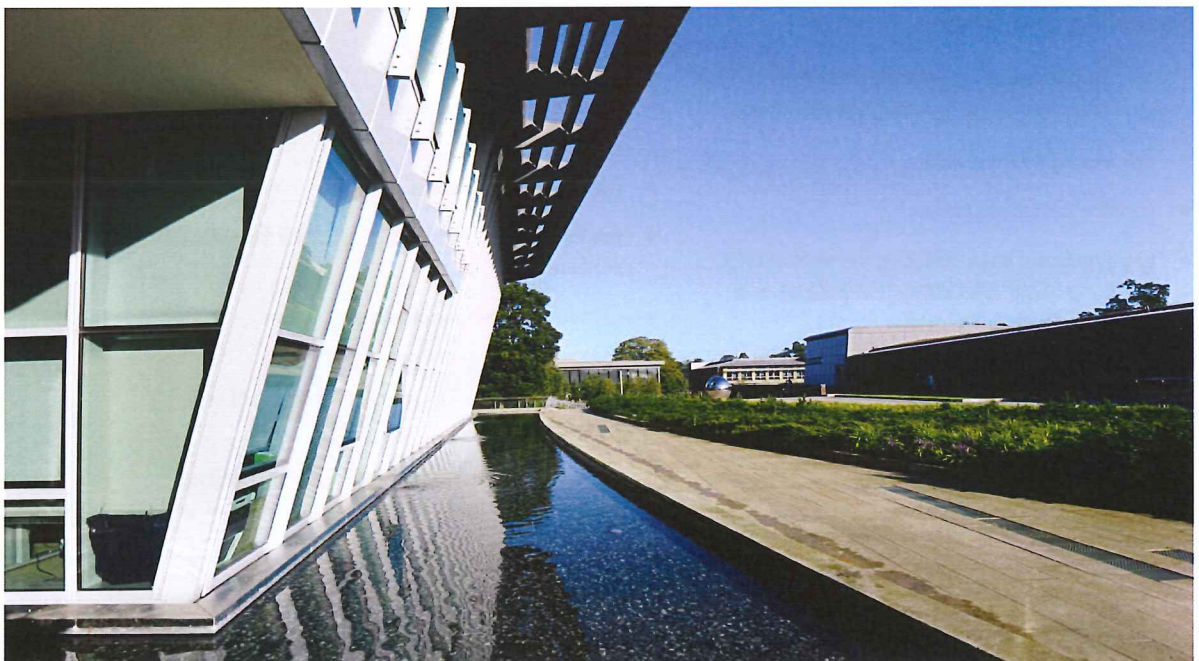
### Conflicts of interest

GRL has a policy on conflicts of interest, which applies to directors and employees. The policy requires disclosure of relevant interests covering commercial and academic interests. The policy defines those financial interests, consultancies and external appointments that should be disclosed.

### Key Management Personnel

The Key Management Personnel of GRL have been defined as:

- The Board of Directors; and





- Members of the Executive Board to whom the Board of Directors have delegated responsibilities for the day-to-day running of the organisation, which include the Chief Executive, the Chief Operating Officer and the Director of Connecting Science.

The remuneration of the Board of Directors is governed by the Articles of Association. The remuneration of members of the Executive Board who are considered Key Management Personnel is determined by the Remuneration Committee as described above.

The total consideration given to Key Management Personnel is summarised in note 6 to the accounts.

### Auditors

The auditors, Deloitte LLP, have indicated their willingness to continue in office and a resolution concerning their re-appointment was approved at the Annual General Meeting.

### Public benefit

GRL reviews its aims each year to ensure that those aims remain focused on its charitable objects. GRL has referred to the guidance contained in the Charity Commission's general guidance on public benefit when reviewing its aims and objectives and in planning its future activities.

The directors are satisfied that due regard has been

given to the public benefit guidance published by the Charity Commission as required by section 17 of the Charities Act 2011.

In the opinion of the directors all of GRL's charitable activities are focused on the objects and aims set out above and are undertaken to further GRL's charitable objects for the public benefit.

### Health and safety

The Wellcome Genome Campus directors recognise that proactive, well-managed health and safety is directly linked to its growth and success.

The following have been achieved or recorded during the reporting period:

- In the annual Royal Society for the Prevention of Accidents (RoSPA) Research and Development Sector awards, the Genome Campus was commended.
- Health and safety training is a key element of managing safety across the Genome Campus. 1487 individuals attended training in 29 different topics. This ranged from general/scientific inductions and risk assessment, to more specialist training such as laboratory ergonomics.
- Assurance programme - Campus Health and Safety run an internal assurance programme, which includes laboratory inspections and more in-depth audits.

- Two audits have been undertaken across Campus on the control of contractors within the Customer Services and Capital Project teams, as well as the procurement, storage, use and disposal of chemical substances within the Scientific Operations teams.
- Daily engagement activities were arranged for a health, safety and environment week which included home fire safety, laboratory and office ergonomics, personal driver awareness, as well as energy saving and waste management. A new focus on combatting the causes of stress and improving mental wellbeing was launched, which will include workshops on managing stress, and the formation of a mental health first aid team.

## Environment

- GRL has appointed a Travel and Environment Manager to develop our green travel policy and projects to maximise site benefit and provide input to green travel elements of the Site Vision.
- GRL is upgrading to the ISO 14001:2015 environmental management system excellence accreditation, so that all of our business processes operate to best practice, backed up by regular audits and inspections.
- GRL is progressing towards ISO 50001 for Energy Management. Baseline audits of energy consumption and use are complete, and improved reporting is in place.
- All new buildings, and where refurbishments are completed, are fully equipped with metering for electricity, gas and water to ensure that we have a detailed understanding of our energy balance, so that, as well as minimising waste, we can provide information to our users to help them minimise use.
- We operate a large Combined Cooling Heating and Power (CCHP) plant on the southern section of the Campus, allowing us to generate power with reduced emissions of CO<sub>2</sub> (as compared to national grid electricity) and benefit from cooling and heating created from the waste heat from the generator plant.
- We have reviewed and upgraded our waste management strategy to improve on our targets of reducing waste to landfill by improved recycling and we have appointed a new service for the disposal of clinical and offensive waste from research activities with stronger management and duty of care.
- Water consumption and emissions to the public sewer have been reviewed with our service provider Anglian Water.
- Our grounds are enjoyed by all staff and visitors as an amenity, and this has also been interwoven into our environmental programme for biodiversity, with opportunities to study wildlife and flora in our wetlands abutting the River Cam, keep our own beehives and create wildflower meadow areas on site.



Internal training in action



## Employment and diversity

### Employment

GRL is committed to employment practices, systems and policies which ensure legislative compliance and follow best practice, while promoting a work environment which supports the realisation of scientific purpose of the organisation. Policies and processes are reviewed and refined on a regular basis to ensure they remain fully compliant and appropriate for the needs of the organisation.

A new, integrated HR system has been procured and is in the process of being implemented for all GRL employees, students and visiting workers. Importantly, this will streamline GRL's people processes and provide more accurate, real-time management information which will be used to measure the effectiveness of workforce strategies and aid informed decision making to support change in the organisation.

The establishment of a new Faculty Coordination Committee (FCC) is another important step towards providing better support for the delivery of Sanger's scientific strategy. Chaired by GRL's Director of Human Resources and Organisation Development, the FCC is responsible for ensuring that the on- and off-boarding of faculty is planned and managed to a consistently high standard.

GRL has prioritised a number of other activities to ensure that we continue to build organisational resilience and stronger employee relations.

Firstly, a review of the GRL Pay Framework will deliver greater transparency and flexibility around pay progression. The pay framework is being remodelled to enable the organisation to focus more specifically on job families where we have particular issues with recruitment and retention in an ever changing and more competitive market. A new senior leadership pay framework has been developed and introduced.

A full appraisal of our workforce strategy has commenced and will identify how GRL will respond to continuously evolving skills requirements and specific shortages by attracting, recruiting and growing a broad range of scientific and non-scientific talent pipelines utilising formal development pathways. Funding from HEFCE

(Higher Education Funding Council for England) has recently been secured as part of a joint sector partnership with Anglia Ruskin University to develop a Bioinformatics degree level apprenticeship.

The delivery of an action plan to improve internal communications and employee engagement is overseen by the Internal Communications Steering Group which reports to the GRL Operations Board. The new 'Employee Partnership' is regarded as a key enabler, alongside the introduction of organisational values and communication channels which encourage feedback and enable regular dialogue with managers and employees such as the reinstatement of regular Town Hall meetings and widening the membership of the senior leadership forum.

### Diversity

GRL's scientific mission, and global reputation for excellence, depends upon a collective effort of diverse expertise, skills and activities. We place great value on attracting, recruiting and retaining talent from all backgrounds and providing an environment where everyone is encouraged to thrive, contribute and reach their full potential irrespective of age, disability, gender, gender identity, sexual orientation, race, religion or belief, or marital and civil partnership status. Mandatory unconscious bias in recruitment training has been introduced for all employees who sit on interview panels with the aim of ensuring that our recruitment process encourages the selection of the right candidates, regardless of their background, to help us drive the best science that we can.

GRL remains committed to the Athena SWAN Charter which recognises work undertaken to address gender equality, including promoting the advancement of the careers of women in science. To reflect the widened remit of Athena SWAN, a broader strategy to promote equality, inclusion and diversity across all areas of the organisation is in development. Our aim is to foster an inclusive culture and raise GRL's profile as a sector leader in equality, diversity and inclusion.

### Learning and Development

Our strategy to grow the capability and potential of managers and employees is based on the provision of an extensive selection of innovative learning and

specialist development interventions and advice.

A new Management & Leadership development framework is supported by a comprehensive portfolio of six bespoke formal development programmes and 'Managers Toolkit' bitesize training sessions. These have all been carefully crafted to meet the assorted development needs of both scientific and non-scientific managers operating at different career stages and levels. A new programme specifically designed for postdoctoral fellows (PDFs) and staff scientists is now offered in addition to our prestigious 'Pathway to Independence' programme, and run in conjunction with partner organisations for talented PDFs. Since launching in May 2016, almost 200 supervisors, managers and leaders have benefited from these formal programmes and 270 places have been secured on the Managers Toolkit.

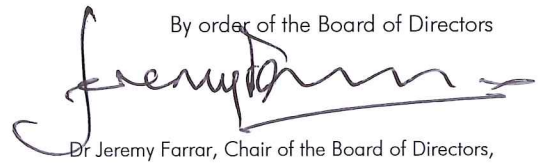
All employees can access in excess of 30 workshops designed to enhance the competencies and skills valued by the organisation. Furthermore, GRL now has a well-established in-house Mentor & Coach Network to support lifelong learning. This network boasts almost 40 internal mentors and coaches who are typically engaged to support career choices and journeys, as well as to help tackle specific skills challenges.

## Improving our operational processes and systems

We are implementing a business enterprise system that underpins our scientific operations. The works order system links our laboratory management information systems and data warehouses to the finance software. Customers can submit samples, choose sample sets and create work orders through simple-to-use self-service web interfaces against validated cost codes. The project enforces additional rigour with ethical approval, reducing the risk of infringement. Cross-charging and billing is seamless with the finance system and management information high-quality and up to date. This development future proofs our scientific operations and has broader benefits such as enhancing our capabilities to support fee-for-service work.

The Annual Report is signed by the Chair on behalf of the Board of Trustees. The Trustees also approve the Strategic Report, which is contained within this Annual Report.

By order of the Board of Directors



Dr Jeremy Farrar, Chair of the Board of Directors,  
8 December 2017



# Statement of Directors' responsibilities

The Directors are responsible for preparing the Directors' Report, the Strategic Report and the Financial Statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice), including FRS 102 "the Financial Reporting Standard applicable in the UK and the Republic of Ireland".

Company law requires the Directors to prepare Financial Statements for each financial year which give a true and fair view of the state of affairs of the charitable company and of the incoming resources and application of resources, including the income and expenditure, of the charitable company for that year. In preparing these Financial Statements, the Directors are required to:

- select suitable accounting policies and then apply them consistently;
- observe the methods and principles in the Charities SORP;
- make judgements and 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; and
- prepare the Financial Statements on the going concern basis unless it is inappropriate to presume

that the charitable company will continue its activities.

The Directors are responsible for keeping proper accounting records that disclose with reasonable accuracy at any time the financial position of the charitable company and enable them to ensure that the Financial Statements comply with the Companies Act 2006. They are also responsible for safeguarding the assets of the charitable company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

## Disclosure of information to auditor

As far as the Directors are aware:

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

The Directors are responsible for the maintenance and integrity of the corporate and financial information included on the charitable company's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.



The Sulston Building from the air

# Independent Auditor's Report to the Directors/Trustees of Genome Research Limited

## Report on the audit of the financial statements

### Opinion

In our opinion the financial statements:

- give a true and fair view of the state of the charitable company's affairs as at 30 September 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 including Financial Reporting Standard 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland"; and
- have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements of Genome Research Limited (the 'charitable company') which comprise:

- the statement of financial activities;
- the charitable company balance sheet;
- the statement of accounting policies; and
- the related notes 1 to 18.

The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including Financial Reporting Standard 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland" (United Kingdom Generally Accepted Accounting Practice).

### Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs(UK)) and applicable law. Our responsibilities under those standards are further described in the auditor's responsibilities for the audit of the financial statements section of our report.

We are independent of the charitable company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard, and

we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### Conclusions relating to going concern

We are required by ISAs (UK) to report in respect of the following matters where:

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

We have nothing to report in respect of these matters.

### Other information

The trustees are responsible for the other information. The other information comprises the information included in the annual report, other than the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in respect of these matters.

## Responsibilities of trustees

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

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

## Auditor's responsibilities for the audit of the financial statements

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

A further description of our responsibilities for the audit of the financial statements is located on the Financial Reporting Council's website at: [www.frc.org.uk/auditorsresponsibilities](http://www.frc.org.uk/auditorsresponsibilities). This description forms part of our auditor's report.

## Use of our report

This report is made solely to the charitable company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the charitable company's members those matters we are required to state to

them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the charitable company and the charitable company's members as a body, for our audit work, for this report, or for the opinions we have formed.

## Report on other legal and regulatory requirements

### Opinions on other matters prescribed by the Companies Act 2006

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

- the information given in the trustees' report, which includes the strategic report and the directors' report prepared for the purposes of company law for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the strategic report and the directors' report included within the trustees' report have been prepared in accordance with applicable legal requirements.

In the light of the knowledge and understanding of the company and its environment obtained in the course of the audit, we have not identified any material misstatements in the strategic report or the directors' report included within the trustees' report.



Jayne Rowe FCCA (Senior Statutory Auditor)

for and on behalf of Deloitte LLP

Statutory Auditor

London, UK

// December 2017

## 1. Accounting policies

### Basis of preparation and statement of compliance

The financial statements of Genome Research Ltd ("GRL") have been prepared on a going concern basis in accordance with Financial Reporting Standard 102 and with the Statement of Recommended Practice 'Accounting and Reporting by Charities FRS 102 as published in 2015' ("the SORP 2015") together with the Companies Act 2006 and the Charities Act 2011.

GRL meets the definition of public benefit entity under FRS 102.

The Financial Statements have been prepared under the historical cost convention, as modified by the revaluation of investments and on a basis consistent with prior years.

The Charity meets the definition of a qualifying entity under FRS 102 and has therefore taken advantage of the disclosure exemptions available to it in respect of its separate financial statements. The financial statements of GRL and its subsidiaries (Hinnton Hall Limited and Genome Research Trading Limited) are consolidated within the financial statements of its parent entity, the Wellcome Trust. As such, GRL has applied the disclosure exemption from preparing consolidated financial statements. Exemptions have been taken in relation to presentation of a Statement of Cash Flows and Financial Instruments. The equivalent disclosures relating to the exemptions have been included in the Consolidated Financial Statements of the Wellcome Trust, its parent.

The principal accounting policies applied in the preparation of these financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated. The company has adopted FRS 102 in these financial statements.

The preparation of financial statements in conformity with FRS 102 requires the use of certain accounting estimates. It also requires management to exercise its judgement in the process of applying the company's accounting policies. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the financial statements are disclosed in note 2.

### Fund accounting

The charitable company's funds consist of restricted and endowment funds which are subject to specific conditions imposed by the donors. The endowment fund is an expendable endowment.

### Grants receivable

Income is recognised in line with the SORP requirements for entitlement, probability and measurement. The charity's core funding from the Wellcome Trust is in the form of a multi-period grant which is subject to annual approval based on a review of science and the agreement of annual budgets. The income for core funding is recognised when the conditions for grant recognition have been satisfied. Entitlement is when the expenditure has been committed.

Other research grants fall largely into two categories: those which are performance related and specify a level of service, and those with no conditions attaching. Income for performance-related grants is recognised when the expenditure is incurred as this reflects the service levels. Income for non-performance-related grants is recognised when awarded as this represents entitlement.

Capital grants with no performance related conditions are recognised when the charity is entitled, the receipt is probable and the amount is measureable which is when the award letter is received.

### Expenditure

Liabilities are recognised as expenditure as soon as there is a legal or constructive obligation committing the charity to that expenditure, it is probable that settlement will be required and the amount of the obligation can be measured reliably. All expenditure is recognised on an accruals basis. The charity has three activities: Sanger Institute, Connecting Science and Enterprise and Innovation. Where possible, expenditure that relates to more than one activity is apportioned. The method of apportionment uses the most appropriate basis of each cost type. Governance costs represent expenditure incurred in compliance with constitutional and statutory requirements including internal and external audit and are included within support costs.

### Tangible fixed assets and depreciation

Tangible fixed assets are measured initially on the balance sheet at their historical cost. Tangible fixed assets costing more than £10,000 are capitalised together with any incidental costs of acquisition. Costs related to building projects are capitalised from the date the building project becomes viable. Prior to that date cost are written off as incurred. During the construction phase, buildings are classified

as being in the course of construction until the date of practical completion when they are transferred to leasehold buildings.

Depreciation is calculated so as to write off the cost of the tangible fixed assets, less their estimated residual values, on a straight-line basis over the expected useful economic lives of the assets concerned. Impairment reviews are undertaken when, in the opinion of the directors, events or circumstances have arisen that indicate that the carrying value of an asset is impaired. They are reviewed annually and any impairment is recognised in the year in which it occurs. No depreciation is charged during the year on the assets in the course of construction. Where an asset has been purchased for use on a third-party funded activity, it is written off over the period of the funding.

The principal annual rates used for this purpose are:

Short leasehold buildings	Over the lease term
Laboratory equipment, fixtures and fittings	Over 5 years
Sequencing instruments	Over 3 years
Computing equipment	Over 3 years

All the charitable company's tangible fixed assets are used for direct charitable purposes. The short leasehold buildings are held under leases from the Wellcome Trust, at £nil cost p.a., which expire in February 2055.

## Financial Instruments

The charity has chosen to adopt Sections 11 and 12 of FRS 102 in respect of financial instruments. Financial assets and financial liabilities are recognised when the charity becomes a party to the contractual provisions of the instrument.

### i) Financial assets

Basic financial assets including trade and other receivables, cash and bank balances, and intercompany loans are initially measured at transaction price (including transaction costs), except for those financial assets classified as at fair value through profit or loss, which are initially measured at fair value (normally the transaction price excluding transaction costs).

Financial assets and liabilities are only offset in the Balance Sheet when, and only when, there exists a legally enforceable right to set off the recognised amounts and the charity intends either to settle on a net basis, or to realise the asset and settle the liability simultaneously.

Investments in equity instruments which are not subsidiaries, associates or joint ventures, are initially valued at fair value which is normally the transaction price. Such assets are subsequently carried at fair value with changes in fair value being recognised in gains and losses in the statement of financial activities, except that investments which cannot be measured reliably are measured at cost less impairment.

Financial assets are derecognised when (a) the contractual rights to the cash flows from the asset expire or are settled, or (b) substantially all the risks and rewards of the ownership of the asset are transferred to another party or (c) control of the asset has been transferred to another party who has the practical ability to unilaterally sell the asset to an unrelated party without imposing additional restrictions.

### ii) Financial liabilities

Basic financial liabilities, including trade and other payables and loans from fellow group companies are recognised at transaction price.

Trade payables are obligations to pay for goods or services that have been acquired in the ordinary course of business from suppliers. Accounts payable are classified as current liabilities if payment is due within one year or less. If not, they are presented as non-current liabilities. Trade payables are recognised initially at transaction price and subsequently measured at amortised cost using the effective interest method.

## Stock

Stock is stated at the lower of cost and net realisable value. Cost is determined on a first-in first-out basis. Where necessary, provision is made for obsolete, slow moving and defective stock.

## Foreign currencies

Transactions denominated in foreign currencies are translated into Sterling at the rates ruling at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies at the balance sheet date are retranslated at the rates ruling at that date. All differences are dealt with in the Statement of Financial Activities.

## Investments

Unquoted investments are valued at management's best estimate of fair value in line with FRS 102.

## Defined benefit pension plan

The Charity operates a defined benefit plan for certain employees. A defined benefit plan defines the pension benefit that the employee will receive on retirement, usually dependent upon several factors including age, length of service and remuneration.

The liability recognised in the balance sheet in respect of a defined benefit plan is the present value of the defined benefit obligation at the end of the reporting date less the fair value of plan assets at the reporting date. The defined benefit obligation is calculated using the projected unit credit method. Annually the Charity engages independent actuaries to calculate the obligation. The present value is determined by discounting the estimated future payments using market yields on high-quality corporate bonds that are denominated in sterling and that have terms approximating the estimated period of the future payments ('discount rate').

The fair value of plan assets is measured in accordance with the FRS 102 fair value hierarchy and in accordance with the Charity's policy for similarly held assets. This includes the use of appropriate valuation techniques.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to "Actuarial gains and losses on defined benefit pension plans" in the Statement of Financial Activities.

The net interest cost is calculated by applying the discount rate to the net balance of defined benefit obligation and the fair value of plan assets. This cost is recognised as part of resources expended.

## Defined contribution pension plan

The Charity operates a defined contribution plan for certain employees. A defined contribution plan is a pension plan under which the Charity pays fixed contributions. Once the contributions have been paid the Charity has no further payment obligations. The contributions are recognised as an expense when they are due. Amounts not paid are shown in accruals in the balance sheet. The assets of the plan are held separately from the Charity in independently administered funds.

## Provisions and contingencies

Provisions are recognised when the charity has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation and the amount has been reliably estimated. Provisions are discounted to present value where the effect is material.

Contingent liabilities are potential future cash outflows, where the likelihood of payment is considered more than remote, but is not considered probable or cannot be measured reliably. These are not recognised but are disclosed in the financial statements.

Contingent assets are potential future inflows of economic benefits where the likelihood of receipt is considered more than remote, but is not considered probable or cannot be measured reliably. These are not recognised but are disclosed in the financial statements.

## Taxation

The Charity is exempt from taxation on its income and gains falling within Part 11 of the Corporation Tax Act 2010 or section 256 of the Taxation of Chargeable Gains Act 1992 to the extent that they are applied to their charitable purposes.

In common with many other charities, the charity is unable to recover the majority of Value Added Tax ("VAT") incurred on expenditure. The amount of VAT that cannot be recovered is included within the underlying cost to which it relates.

## 2. Critical accounting judgements and key sources of estimation uncertainty

In application of the Charity's accounting policies which are described in note 1, the directors are required to make judgements, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from



other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision only affects that period, or in the period of the revision and future periods if the revision affects both current and future periods.

### **Critical judgements in applying the entity's accounting policies**

The following are the critical judgements, apart from those involving estimations (which are dealt with separately below), that management has made in the process of applying the charity's accounting policies and that have the most significant effect on the amounts recognised in the financial statements.

### **Discount rate used to determine the carrying amount of the Company's defined benefit pension obligation**

The charity's defined benefit pension obligation is discounted at a rate set by reference to market yields at the end of the reporting period on high-quality corporate bonds. Significant judgement is required when setting the criteria for bonds to be included in the population from which the yield curve is derived. The most significant criteria considered for the selection of bonds include the issue size of the corporate bonds, quality of the bonds and the identification of outliers which are excluded.

### **Fair value measurement and valuation processes**

Some of the charity's assets and liabilities are measured at fair value for financial reporting purposes. The charity applies judgement in selecting the appropriate valuation techniques for calculating the fair value for reporting purposes. There are no items where the amount of judgement is considered to be critical. The Company holds unquoted investments. Where these are made with co-investors, the co-investor valuation is used to determine fair value. Where there is no co-investor, these investments are internally valued, generally using the price of recent investment.

### **Recognition of charitable income**

The Charity recognises grant income to the extent it is entitled to the funds, has fulfilled the conditions set out by the grant funder and where the amount can be measured reliably and is probable. Judgement is required to determine the point at which these conditions have been met. The Charity assesses the grants on an ongoing basis to evaluate progress against grant.

### **Analysis of charitable expenditure**

The appropriate method of allocating charitable expenditure and the related support costs to each activity requires judgement as some expenditure relates to more than one activity.

### **Impairment of assets**

The Charity holds substantial fixed assets, including buildings. Judgement is required to assess whether these assets will continue to derive value for the organisation. The Charity impairs assets where they are no longer considered to provide such benefit to the users. No impairment was recorded in the current or previous year.

### **Intercompany loans**

Loans payable to Wellcome Trust group entities are considered to be current liabilities and repayable on demand therefore no discounting of the liabilities for the timing of cashflows has been applied. However, there is no formal agreement for repayment terms, so this judgement has been reached based on the Charity's best understanding of the arrangements in discussion with the loan providers.

### **Critical accounting estimates and assumptions**

The charity makes estimates and assumptions concerning the future. The resulting accounting estimates will, by definition, seldom equal the related actual results. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are addressed below.

### **Defined benefit pension scheme**

The Group has an obligation to pay pension benefits to certain employees. The cost of these benefits and the present value

of the obligation depend on a number of factors, including; life expectancy, salary increases, asset valuations and the discount rate used. Management estimates these factors in determining the net pension obligation in the balance sheet. See note 7 for the disclosures relating to the defined benefit pension scheme. We discuss the critical assumptions relating to the defined benefit pension scheme in the Financial Review section on page 15.

### 3. TOTAL INCOME

The charitable company has three main activities: Sanger Institute, Connecting Science and Enterprise and Innovation.

Detailed analysis follows:

	<b>2017</b>	<b>2016</b>
	<b>£'000</b>	<b>£'000</b>
Sanger Institute	119,297	113,736
Connecting Science	3,554	3,122
Enterprise and Innovation (Campus)	4,267	2,242
<b>Total income from charitable activities</b>	<b>127,118</b>	<b>119,100</b>
Core grants from Wellcome	92,911	84,336
Other grants from Wellcome	12,190	17,733
Grants from other funders	22,017	17,031
<b>Total grants from charitable activities</b>	<b>127,118</b>	<b>119,100</b>
Other income	8,199	5,964
<b>Total income</b>	<b>135,317</b>	<b>125,064</b>

Income includes grant funding for both capital and revenue expenditure. Grants from other funders includes £7.2 million Government grants (2016 £6.3 million). Other income includes income from services and utilities, salary recharges, rental income, licences, the release of deferred income from EBI and other immaterial income streams.

### 4a. EXPENDITURE

The Charity has three activities. Expenditure relating to each activity comprises revenue expenditure, including depreciation.

	<b>Direct</b>	<b>Support</b>	<b>2017</b>	<b>2016</b>
	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>	<b>£'000</b>
Sanger Institute	123,507	10,408	133,915	121,101
Connecting Science	5,574	470	6,044	6,370
Enterprise and Innovation	3,672	309	3,981	3,695
	<b>132,753</b>	<b>11,187</b>	<b>143,940</b>	<b>131,166</b>

Support costs have been allocated in proportion to direct costs. Support costs include staff costs of £7.8 million (2016: £7.9 million), depreciation of £0.4million (2016: £0.4 million), premises costs of £1.4 million (2016: £1.1 million) and other costs of £1.5million (2016: £1.3 million).

### 4b. GOVERNANCE COSTS

	<b>2017</b>	<b>2016</b>
	<b>£'000</b>	<b>£'000</b>
External audit costs	68	68
Internal audit costs	69	53
	<b>137</b>	<b>121</b>

Governance costs have been allocated in proportion to direct costs.

## 5. NET EXPENDITURE BEFORE OTHER RECOGNISED GAINS AND LOSSES

Net expenditure before other recognised gains and losses is stated after charging:

	<b>2017</b>	<b>2016</b>
	<b>£'000</b>	<b>£'000</b>
Foreign exchange gains	(398)	(467)
Depreciation	12,058	12,437
Loss/(gain) on disposal of fixed assets	(36)	108
Fees payable to the company's auditors for the audit of:		
Statutory financial statements	60	60
Pension Fund	8	8

## 6. EMPLOYEE INFORMATION

Number of employees

The average headcount of employees analysed by activity and function area, was:

	<b>2017</b>	<b>2016</b>
	<b>Number</b>	<b>Number</b>
Sanger Institute	905	861
Connecting Science	36	20
Enterprise and Innovation	9	10
Administrative	125	124
	<b>1,075</b>	<b>1,015</b>

### Analysed by

#### Sanger Institute

Human Genetics	78	90
Cancer	129	100
Mouse and zebrafish	9	45
Cellular Genetics	61	46
Pathogens	70	74
Malaria	45	45
Computational Genomics	-	52
Open Targets	32	17
Science Strategy	54	51
Science Support	90	27
Science Platforms	275	253
IT Platforms	58	55
Translation	4	6
Total	905	861
<b>Connecting Science</b>	<b>36</b>	<b>20</b>
<b>Enterprise and Innovation</b>	<b>9</b>	<b>10</b>
<b>Administrative</b>	<b>125</b>	<b>124</b>
	<b>1,075</b>	<b>1,015</b>

	<b>2017</b>	<b>2016</b>
	<b>£'000</b>	<b>£'000</b>
<b>Employment costs</b>		
Wages and salaries	43,217	39,254
Social security costs	4,179	3,503
Short term benefits	806	1,329
Pension costs	24,780	17,413
	<b>72,982</b>	<b>61,499</b>

The number of employees whose emoluments amounted to £60,000 or more (excluding employer's National Insurance Contributions and employer's pension contributions) during the year was as follows:

	<b>2017</b>	<b>2016</b>
	<b>Number</b>	<b>Number</b>
£60,000 to £69,999	16	11
£70,000 to £79,999	14	15
£80,000 to £89,999	10	13
£90,000 to £99,999	5	3
£100,000 to £109,999	7	9
£110,000 to £119,999	2	2
£120,000 to £129,999	1	1
£130,000 to £139,999	-	1
£140,000 to £149,999	-	2
£150,000 to £159,999	5	2
£250,000 to £259,999	1	1
£270,000 to £279,999	-	1
£290,000 to £299,999	1	-

All employees earning more than £60,000 participated in the charitable company's pension scheme.

### Redundancy and termination payments

	<b>2017</b>	<b>2016</b>
	<b>£'000</b>	<b>£'000</b>
Redundancy costs	380	396
Termination payments	197	117
Total	577	513

### Directors' remuneration

Total remuneration and expenses received by the Directors of GRL in relation to their duties as directors was £3,218 (2016: £7,814). No other benefits or expenses were reimbursed to the directors of the charitable company. All but two of the directors are either salaried employees of Wellcome or Governors (Directors) of The Wellcome Trust Limited (the corporate trustee of the Wellcome Trust) and do not receive any additional emoluments for their role as Directors of the charitable company. None of these amounts are recharged to the charitable company.

### Directors' indemnity policy

The charitable company is party to a group-wide directors and officers insurance policy which includes all of its current directors. This is not a Qualifying Third Party Indemnity Provision for the purpose of the Companies Act 2006.

## Key management personnel remuneration and benefits

Key management personnel includes members of senior management and directors as described on page 22 of the Directors' report. The employee benefits paid or payable to key management for employee services is shown below:

	<b>2017</b>	<b>2016</b>
	<b>£'000</b>	<b>£'000</b>
Salaries and other short-term benefits	588	620

## 7. PENSION SCHEME

The company operates a funded defined benefit scheme and a defined contribution scheme for its employees.

All contributions to the defined benefit scheme are held in trustee-administered funds (The Genome Research Limited Pension Plan) which is independent of the charitable company's finances. A full actuarial valuation of this scheme was carried out at 31 December 2015 and has been updated to 30 September 2017 by a qualified actuary, independent of the scheme's sponsoring employer. The major assumptions used by the actuary are shown below:

	<b>30 September 2017</b>	<b>30 September 2016</b>	<b>30 September 2015</b>
	% per annum	% per annum	% per annum
Inflation (RPI)	3.40%	3.40%	3.40%
Inflation (CPI)	2.40%	2.40%	2.40%
Salary Growth	3.90%	4.15%	4.15%
Discount Rate	2.75%	2.35%	3.85%
Allowance for revaluation of deferred pensions of RPI of 5% p.a. if less	3.40%	3.40%	3.40%
Allowance for pension in payment increases of RPI or 5% p.a. if less	3.25%	3.30%	3.30%
Allowance for pension in payment increases of CPI or 3% p.a. if less	2.00%	2.30%	2.30%
Commutation of pension to cash at retirement	90% of Post A Day	90% of Post A Day	90% of Post A Day

Mortality assumptions adopted imply the following life expectancies at age 60:

	<b>30 September 2017</b>	<b>30 September 2016</b>
Male retiring in 2017	27.71 years	29.17 years
Female retiring in 2017	28.68 years	30.46 years
Male retiring in 2037	28.86 years	27.80 years
Female retiring in 2037	29.96 years	28.91 years

The scheme funding valuation as at 31st December 2015 showed a deficit of £24.8m. The company has agreed with the trustees that it will aim to eliminate the deficit over a period of 5 years from 31 December 2015 by the payment of two contributions of £3.1m paid in September and December 2016, and four equal contributions of £6.2m payable by 31st December each subsequent year in respect of the deficit.

An approximate annual update as of 31 December 2016 was carried out and showed that the fund was 83% funded with a deficit of £33.9m. Wellcome agreed to increase the annual deficit contribution to £7.8m with effect from 1 January 2017 to clear the deficit over 5 years. £3.9m was paid in September 2017 and Wellcome committed to pay £3.9m in December 2017.

## (i) Charge to the Statement of Financial Activities and Other Comprehensive Income over the financial year:

	2017 £m	2016 £m
<b>Operating charge</b>		
Current service cost	19.5	13.9
Expenses**	0.2	-
Net interest cost	4.9	4.0
<b>Net charge to Statement of Financial Activities prior to actuarial loss</b>	<b>24.6</b>	<b>17.9</b>
Actuarial (gain) loss	(78.7)	97.8
<b>Total charge to Statement of Financial Activities</b>	<b>(54.1)</b>	<b>115.7</b>

\*\* These figures exclude insurance premiums for death in service benefits and PPF levies. Administration expenses have been included with effect from 1 January 2017.

## (ii) Defined benefit costs recognised in other comprehensive income:

	2017 £m	2016 £m
Return on plan assets (excluding amounts included in net interest cost) -gain	29.4	31.8
Experience gains and losses arising on the plan liabilities - gain (loss)	0.6	(8.3)
Effects of changes in the demographic and financial assumption underlying the present value of the plan liabilities - gain (loss)	48.7	(121.3)
<b>Total amount recognized in other comprehensive income -gain</b>	<b>78.7</b>	<b>97.8</b>

## (iii) Reconciliation of opening and closing balances of fair value of scheme assets

	2017 £m	2016 £m
<b>Scheme liabilities at start of year</b>	<b>355.4</b>	<b>205.5</b>
Current service cost	19.5	13.9
Expenses	0.2	-
Interest cost	8.6	8.2
Actuarial (gains) losses	(49.3)	129.6
Benefits paid & death in service insurance premiums	(1.8)	(1.8)
<b>Scheme liabilities at end of year</b>	<b>332.6</b>	<b>355.4</b>

Contributions payable to the defined benefit scheme during the year amounted to £13.9 million (2016 £14.3million). In addition £0.5 million (2016 £0.6million) was paid in respect of scheme administration expenses and insurance premiums for death in service benefits. The actual return on the plan assets over the period ended 30 September 2017 was £33.1m.

The best estimate of contributions to be paid by the employer to the scheme for the year beginning after 30 September 2017 is £13.3 million (2016 £9.5million).

## Scheme Assets

	30 September 2017	30 September 2016	30 September 2015
Equity	197.0	151.7	102.7
Other (Property, Cash, etc.)	0.6	0.7	0.6
<b>Total Assets</b>	<b>197.6</b>	<b>152.4</b>	<b>103.3</b>

## (iv) Reconciliation of opening and closing balances of the fair value of the defined benefit obligation

	2017 £m	2016 £m
<b>Scheme liabilities at start of year</b>	<b>355.4</b>	<b>205.5</b>
Current service cost	19.5	13.9
Expenses	0.2	-
Interest cost	8.6	8.2
Actuarial (gains) losses	(49.3)	129.6
Benefits paid & death in service insurance premiums	(1.8)	(1.8)
<b>Scheme liabilities at end of year</b>	<b>332.6</b>	<b>355.4</b>

## (v) Amounts for the current and previous four years:

	2017 £m	2016 £m	2015 £m	2014 £m	2013 £m
Fair value of assets	197.6	152.4	103.3	99.6	82.3
Present value of scheme liabilities	332.6	355.4	205.5	180.1	138.4
Deficit in scheme	(135.0)	(203.0)	(102.2)	(80.5)	(56.1)

## Defined contribution scheme

The charitable company provides a defined contribution Group Personal Pension Plan.

The amount recognised as an expense for the defined contribution scheme was:

	2017 £'000	2016 £'000
Current period contributions	779	86

Contributions paid to the defined contribution scheme during the year amounted to £0.8m (2016:£0.1m).

## 8. TANGIBLE FIXED ASSETS

	Assets in the course of construction £'000	Short leasehold buildings £'000	Laboratory equipment, fixtures and fittings £'000	Total £'000
Cost as at 1 October 2016	303	183,454	124,415	308,172
Additions	6,649	342	5,603	12,594
Transfers	(303)	1,009	(706)	-
Disposals	-	-	(4,788)	(4,788)
<b>As at 30 September 2017</b>	<b>6,649</b>	<b>184,805</b>	<b>124,524</b>	<b>315,978</b>
Accumulated depreciation as at 1 October 2016	-	36,574	108,507	145,081
Charge for the year	-	3,856	8,202	12,058
Disposals	-	-	(4,730)	(4,730)
<b>As at 30 September 2017</b>	<b>-</b>	<b>40,430</b>	<b>111,979</b>	<b>152,409</b>
<b>Net book value at 30 September 2017</b>	<b>6,649</b>	<b>144,375</b>	<b>12,545</b>	<b>163,569</b>
<b>Net book value at 30 September 2016</b>	<b>303</b>	<b>146,880</b>	<b>15,908</b>	<b>163,091</b>

## 9. INVESTMENTS

Unquoted investments represent the Institute's holding of ordinary share capital of Kymab Limited, VHSquared Limited, Microbiotica Ltd and Congenica Ltd.

	2017 £'000	2016 £'000
<b>Unquoted investments</b>		
At 1 October	1,951	871
Unrealised gains	2,533	1,080
<b>At 30 September</b>	<b>4,484</b>	<b>1,951</b>

## 10. TAXATION

The company is a registered charity, and as such is entitled to certain tax exemptions on income and profits from investments, and surpluses on any trading activities carried on in furtherance of the charity's primary objectives, if these profits and surpluses are applied solely for charitable purposes. The company has been able to claim research and development expenditure credits ("RDEC") for the period from 1 October 2012 to 31 July 2015 due to changes in legislation. The legislation was amended with effect from 1 August 2015 preventing further claims.

The estimated cost of irrecoverable VAT suffered by the charitable company was £2.6million (2016 £2.6million). This amount is charged in the accounts with its related expenditure.

The company has previously recorded as income claims made for Research and Development Expenditure Credits for relevant expenditure incurred in the years 30 September 2013, 2014 and 2015. HM Revenue and Customs has paid the claimed amounts for 2013 and 2014 (£2,319,028 and £4,875,474 respectively), however, HMRC have raised an assessment to protect its position in relation to the 2013 claim, which has been formally appealed. HMRC have requested



information to support the claim of £4,162,271 for the year ended 30 September 2015. This information has been submitted and whilst no opinion has yet been given by HMRC, management is confident that this will be deemed sufficient to support the claim.

## 11. STOCKS & WORK IN PROGRESS

In the opinion of the Directors, replacement costs of stocks would not differ materially from that stated above. A stock take for September 2017 was carried out and all the obsolete stock was provided for.

	2017	2016
	£'000	£'000
<b>Raw materials and consumables</b>	<b>2,079</b>	<b>2,084</b>

## 12. DEBTORS

	2017	2016
	£'000	£'000
Amounts owed by the European Union	1,681	2,962
Amounts owed by the Medical Research Council	232	674
Amounts owed by Wellcome	10,584	14,713
Other debtors	21,036	12,785
Prepayments and accrued income	5,483	4,237
	<b>39,016</b>	<b>35,371</b>

Other debtors in 2017 includes £4.2million (2016: £4.2million) relating to RDEC claim referred to in note 10.

## 13. CREDITORS: amounts falling due within one year

	2017	2016
	£'000	£'000
Trade creditors	6,448	6,521
Amounts owed to the European Union	773	1,602
Amounts owed to the Medical Research Council	-	57
Taxation and social security	1,131	1,112
Other creditors	896	1,327
Pension contributions and salaries payable	174	60
Accruals	4,134	4,042
Deferred income (see note 14)	15,188	10,575
<b>Total falling due within one year</b>	<b>28,744</b>	<b>25,296</b>

## 14. CREDITORS: amounts falling due after one year

	2017	2016
	£'000	£'000
<b>Amounts falling due after one year:</b>		
Between one and five years - deferred lease premium	1,878	1,878
Between one and five years - employee share of investment gain	2,826	1,300
More than five years - deferred lease premium	15,191	15,660
	<b>19,895</b>	<b>18,838</b>
<b>Deferred income</b>		
	2017	2016
	£'000	£'000
<b>At 1 October</b>	28,114	26,844
Received during the year due within one year - other	17,253	4,706
Released to income during for the year	(13,174)	(3,436)
<b>At 30 September</b>	<b>32,193</b>	<b>28,114</b>

2017 deferred income includes an amount of £1.8 million (2016 £1.8 million) which relates to a lease premium received from EBI (European Bioinformatics Institute). 2017 also includes a total amount of £17.5 million (2016 £18.0 million) which is a deferred lease premium received from the EBI in relation to a new building. The balance relates to cash received in advance from third party grantors for future years.

## 15. CAPITAL COMMITMENTS

As at 30 September 2017 commitments contracted but not accrued of £3.8m were outstanding, related to the construction of the Genome Campus datacentre (2016: £0.2 million relating to construction of the Bridget Ogilvie Building and BioData Innovation Centre).

	2017	2016
	£'000	£'000
Items contracted but not provided for - buildings	3,800	-
	<b>3,800</b>	<b>-</b>

## 16. ULTIMATE PARENT UNDERTAKING &amp; CONTROLLING PARTY

The directors regard the Wellcome Trust as the ultimate parent company and controlling party, which is the smallest and largest group to consolidate these Financial Statements. Copies of the Wellcome Trust Annual Report and Financial Statements can be viewed on its website – <https://wellcome.ac.uk/what-we-do/reports>. Alternatively, they may be obtained from the Company Secretary.

## 17. RELATED PARTY TRANSACTIONS

The company is wholly-owned by the Wellcome Trust and has applied the exemption in paragraph 33.1A of FRS 102 "Related Party Transactions". The exemption permits the non-disclosure of transactions entered into between two or more members of a group, provided that any subsidiary undertaking which is a party to the transaction is wholly-owned by a member of that group.

Details of the Company's subsidiaries as at 30 September 2017 are as follows:

Name of subsidiary and company number	Place of incorporation	Proportion of ownership interest	Proportion of voting power held	Registered Address	Principal Activity
Genome Research Trading Limited (10058101)	England and Wales	100%	100%	215 Euston Road, London, NW21 2BE	Facilities management
Hinxton Hall Limited (03062160)	England and Wales	50%	50%	215 Euston Road, London, NW21 2BE	Education
Genome Research Pension Trustee Limited (09186099)	England and Wales	100%	100%	215 Euston Road, London, NW21 2BE	Dormant
GRL Construction Limited (09280062)	England and Wales	100%	100%	215 Euston Road, London, NW21 2BE	Dormant

## 18. MOVEMENT IN RESTRICTED AND ENDOWMENT FUNDS

	1 October 2016 £'000	Incoming £'000	Outgoing £'000	30 September 2017 £'000
<b>Capital funds</b>				
Building development	129,021	5,444	(3,856)	130,609
Capital equipment	15,580	5,844	(8,201)	13,223
<b>Research fund</b>	14,598	124,029	(119,585)	19,042
<b>Investment fund</b>	652	2,533	(1,526)	1,659
<b>Restricted income funds</b>	<b>159,851</b>	<b>137,850</b>	<b>(133,168)</b>	<b>164,533</b>
Endowment fund	692	19	(72)	639
Pension deficit	(203,000)	78,700	(10,700)	(135,000)
<b>Total Charity Funds</b>	<b>(42,457)</b>	<b>216,569</b>	<b>(143,940)</b>	<b>30,172</b>

The building development fund relates to expenditure on leasehold buildings. The capital equipment fund relates to funding for other fixed assets. The research fund represents net income relating to non-asset expenditure incurred in running the Company during the year. The investment fund represents the value of the Company's investments in unquoted securities. The endowment fund is an expendable endowment. All funds are subject to the conditions and are therefore restricted.

	1 October 2015 £'000	Incoming £'000	Outgoing £'000	Transfer £'000	30 September 2016 £'000
<b>Capital funds</b>					
Building development	130,746	1,799	(3,524)	-	129,021
Capital equipment	18,500	6,101	(9,021)	-	15,580
<b>Research fund</b>	13,027	116,240	(114,833)	164	14,598
<b>Investment fund</b>	292	1,080	(720)	-	652
<b>Restricted income funds</b>	<b>162,565</b>	<b>125,220</b>	<b>(128,098)</b>	<b>164</b>	<b>159,851</b>
Endowment fund	-	923	(67)	(164)	692
Pension deficit	(102,200)	-	(100,800)	-	(203,000)
<b>Total Charity Funds</b>	<b>60,365</b>	<b>126,143</b>	<b>(228,965)</b>	<b>-</b>	<b>(42,457)</b>

The transfer represents expenditure from the research fund being met by the endowment fund relating to prior years.

## Reference and administrative information

### Constitution

The Company is a charity registered in England with the Charity Commission under the Charities Act 1993, as amended by the Charities Act 2011 (Charity registration number 1021457) and is a company limited by guarantee and registered in England (Company number 2742969). The sole member of the charitable company is The Wellcome Trust Limited, as trustee of the Wellcome Trust. In the event of the charitable company being wound up, the liability in respect of the guarantee is limited to £1.

### Directors

The Directors of the Company who were in office during the year and up to the date of signing the financial statements were:

Dr Jeremy Farrar (Chair)  
Professor Dame Kay Davies  
Professor Rolf-Dieter Heuer  
Mr Tim Livett  
Dr Timothy Rink (resigned 9 January 2017)  
Professor Patrick Vallance

### Company Secretary

Chris Bird

### Registered Office

The Wellcome Trust  
Gibbs Building  
215 Euston Road  
London  
NW1 2BE

### Principal Place of Business

Wellcome Genome Campus  
Hinxton  
Cambridge  
CB10 1SA

### Independent Auditors

Deloitte LLP  
Statutory Auditor  
2 New Street Square  
London  
EC4A 3PA

### Bankers

National Westminster Bank plc  
King's Parade Branch  
Bene't Street  
Cambridge  
CB2 3PU

### Solicitors

CMS Cameron McKenna  
Mitre House  
160 Aldersgate Street  
London  
EC1A 4DD

Cambridge Employment Law  
Stratford House  
Ousden, Newmarket  
Suffolk  
CB8 8TN

### Actuary

Jardine Lloyd Thompson  
St James's House  
7 Charlotte Street  
Manchester  
M1 4DZ

**Genome Research Limited**  
**Wellcome Genome Campus**  
**Hinxton, Cambridge**  
**CB10 1SA**  
**Charity Registration: 1021457**  
**Company No: 2742969**

