The Lister Institute
of Preventive Medicine

ANNUAL REPORT AND FINANCIAL STATEMENTS

for the year ended 31 December

2021

Nurturing the future leaders in biomedical research

The Institute was founded in 1891 and for the next 85 years played a vital role in the development of the laboratory aspects of preventive medicine as an independent research institute in the UK. Since the 1980s the Lister Institute has been a highly successful trust awarding prestigious research fellowships, which in 2003, were revised to become Prize Fellowships. The Fellowships continue to deliver the Lister Institute's strategic aim of nurturing the future leaders in biomedical research.

Over its history the Lister Institute research staff and fellows have made discoveries that have made significant impacts on human health. For example, Dr (later Dame) Harriet Chick discovered that a deficiency of vitamin D was the cause of ricketts. Several researchers were involved in research into blood groups thus making blood transfusion safe. Dr (later Professor) Leslie Collier found a way to produce a form of smallpox vaccine storable at warm temperatures so it could be used all over the world and ultimately led to the eradication of smallpox. Dr (now Professor Sir) Alec Jeffreys discovered DNA fingerprinting for use in solving crimes and paternity cases. Our current fellows continue to build on this illustrious past and are making discoveries that will impact preventive medicine in the future.

Chairman, Professor Sir Alex Markham

CHAIRMAN'S INTRODUCTION

for the year ended 31 December 2021

I am pleased to present the Lister Institute of Preventive Medicine Annual Report for 2021 on behalf of the Governing Body.

The ongoing Covid pandemic has continued to provide challenges for us all. Despite this, the Lister Institute has carried on its work in 2021, awarding six Lister Prizes of £250,000, giving 41 Studentships and once again holding its Annual Meeting in Oxford.

Our Fellows and former Fellows continue to conduct excellent research, publish in high impact journals and to win awards and recognition for their work. This year, particular congratulations must be given to: Professor Frances Platt who was elected as a Fellow of the Royal Society; Professors Michael Eddleston and Liz Patton (Scientific Advisory Committee (SAC) member) who were elected Fellows of the Royal Society of Edinburgh; Dr Madan Babu who was elected a Fellow of the Academy of Medical Sciences; and Professors Pete Cullen and Corinne Houart (Former SAC member) who were elected Members of EMBO. In addition, we offer our warmest congratulations to Dr Amanda Sferruzzi-Perri who was awarded the Hans Sigrist Prize and Professor Michael Eddleston who was awarded the University of Edinburgh Chancellor's Award.

On a sad note, I am sorry to have to report that Professor Sir James Gowans, Lister Member, former Governor and Chair of the SAC, and Professor Sir Peter Lachmann Lister Member and former member of the SAC both passed away last year. Both were giants of 20th Century UK biomedicine.

While much of the business of the Lister Institute continued to be conducted virtually throughout 2021, a real highlight of the year was that we successfully held the Annual Meeting in Oxford. For the majority of people, it was their first 'in person' meeting in 18 months and everyone was excited to be there. Although we had a few cancellations due to Covid we had a full agenda, with Prize Fellows from both 2020 and 2021 speaking. The poster session was popular with the Students having an opportunity to present their work, network with the Fellows and talk about careers in science.

As always, I would like to thank Professor John Iredale and all the members of the SAC and our wonderful office staff for their extremely hard work in reviewing the many applications and identifying the Lister Prize Fellows. 2021 was a record year and we received 145 applications!! This created an enormous task for both the SAC to prioritise and the staff to secure external reviewers. As in 2020, the final interviews were conducted virtually via Zoom. This worked very well with the candidates still giving presentations and being subject to intense questioning by the panel before the Prize winners were selected.

I would also like to thank the members of the Governing Body and the Finance and Investment Committee for all their hard work and support, throughout the year. I particularly thank our new Treasurer, Murray Legg, and our new FIC member Stephen McMahon for the valuable contributions they are already making behind the scenes to the work of the Lister.

It is fantastic that we have been able to re-start the Fellows visits this year. In November 2021 we went to the Babraham Institute where two Fellows – one from 2020 (Michelle Lintermann) and one from 2021 (Hayley Sharpe) presented their work. December marked another visit, to Durham, where Tim Blower (2020) presented his research. So far in 2022, we have enjoyed a visit to the Francis Crick Institute in January to hear presentations from James Lee and Rickie Patani (2021), hosted by our former Governor Sir Peter Ratcliffe, now the Clinical Director at the Crick. I would like to express our thanks to all 3 Institutions for their excellent hospitality and ongoing support. Covid allowing we aim to catch up on the other visits in 2022!

Financial markets were more stable in 2021 despite the ongoing pandemic and disruption to our daily lives. Throughout this period our investment managers continued to do an excellent job of looking after our resources and we ended the year with another positive outcome. The valuation of our investments on 31 December 2021 (after withdrawal of the funds for the Prize Fellowships, Studentships and our operational costs) was £47.6M, up from £44.86M in December 2020. Recent in events in Ukraine have had a significant impact on the markets and we will need to wait to see how things develop over 2022.

Whilst the Covid pandemic has brought considerable challenges, it has also exemplified the vital importance of biomedical research. The Lister Institute Prizes of £250,000 provide an excellent foundation that really makes a significant and positive impact on Fellows' research and careers. They ensure that we deliver on our stated aim of 'nurturing the future leaders in biomedical research'.

I am sad to say that this will be the last Lister Institute Annual Report that I present, as I will be standing down at the end of my allowed term as Chairman at the AGM in September 2022. I am delighted to announce that I will be handing our reins into the very safe hands of Professor John Iredale. John is very well known and respected by the Lister Institute family, because he has been a Trustee and very effective Chair of our Scientific Advisory Committee for the last 5 years. At the same time, John is passing the vital baton of Chairmanship of the SAC into the equally safe hands of Professor Julian Blow. Julian is a former Lister Fellow and has been a member of the SAC for the last 3 years.

The strength of the Institute is the people associated with it, whether they be our Fellows, members of the Governing Body and its sub-committees, the Membership of the Institute or our staff and to all I offer my sincerest and warmest appreciation.

The Lister Institute is in a strong position, and I am confident that with its new leadership it will go from strength to strength in the years to come.

It has been a huge pleasure and privilege to serve the Lister Institute as its Chairman over the past decade. I am particularly conscious of the many distinguished national scientific leaders who have graced the Lister Institute Chair over the decades and I hope posterity will not feel that I have let them down. This has been the highlight of a long career for me. You have all taught me a great deal. The extraordinary catalogue of the Institute's achievements over the years, produced to mark our 125th Anniversary in 2016, stands out as a particularly fond memory and reminds us all of the remarkable value of this unique organisation.

On this occasion, I wish to conclude by specifically thanking the current representative of our founder, Lord Iveagh, my good friend and wonderfully supportive member of the Governing Body, the Hon Rory Guinness, for the massive amount he always does to support the Lister Institute.

I hope that I have not disappointed any of you and I wish you all every possible joy and continuing success.

Here's to the next 125 years!

Professor Alex Markham, Chairman

2021 LISTER RESEARCH **PRIZE FELLOWSHIP WINNERS:**

Amidst the continuing disruptions of the COVID-19 pandemic, we ran our full application process remotely for the second year running. We identified six researchers with the potential to play a leading role in a range of vital biomedical developments.

The individuals to whom we awarded the Lister Prize Fellowships are as follows:

Dr Tanmay Bharat, University of Oxford

In situ structural studies of the functional organisation and inhibition of the BAM complex in Gram-negative bacteria

There is much to learn about how bacteria form biofilms – the multicellular, organised communities that help them evade antibiotics. Tanmay's Bacterial Biofilms group investigates this using their expertise in electron microscopy and cellular structural biology. The team look inside bacterial cells at the atomic level to study the fundamental molecular mechanisms involved in biofilm formation. Their findings could help inform and develop therapeutic strategies against bacterial infections.

Prof Ravindra Gupta, University of Cambridge

Cell cycle regulation in Macrophages

Macrophages are reservoirs for the HIV-1 virus, where it can lie safely dormant during anti-retroviral treatment. Although macrophages are thought of as non-dividing cells, Ravindra's research has shown that a significant proportion do go through the early stage of cell division (from G0 to G1). This transition makes them highly vulnerable to infection. By understanding how these cell cycle transitions occur, Ravindra hopes to develop strategies to make macrophages less susceptible to HIV-1. His research may also help understand infection and immunity more broadly and could have implications for inflammation and cancer.

Dr James Lee, Francis Crick Institute

From SNPs to biology in inflammatory diseases

Almost all autoimmune diseases need better treatments, but many drugs fail during the early stages of development. This is partly because we still do not know enough about these diseases. James' lab has developed a series of experimental tools to better understand how tiny differences in DNA, known as SNPs, predispose people to inflammatory diseases such as rheumatoid arthritis. By uncovering the biological mechanisms involved, his lab hopes to better understand autoimmune conditions and find new ways of treating them.

Note: The academic rank of each Prize winner is shown as at the date of the award.

Prof Rickie Patani, UCL and The Francis Crick Institute

Identifying therapeutically targetable RNA binding proteins in ALS

Motor neuron disease (ALS) remains untreatable because we do not understand the underlying disease mechanisms. Rickie's laboratory transforms stem cells generated from real patients into motor neurons to study disease development at the cellular and molecular levels. His research focuses on how RNA molecules become 'corrupted' in ALS, possibly because the proteins responsible for RNA processing become mis-localised from the nuclear to cytoplasmic compartment in this context. Understanding this 'chaos' may help Rickie's team better understand ALS and identify potential therapies.

Dr Christopher Stewart, Newcastle University

Using stem cell derived "mini guts" to investigate microbiome-host interaction in early life

A key risk for babies born very preterm is that they have abnormal bacterial colonisation of the gut. This puts them at significant risk of life-threatening diseases. We know that breast milk delivers important components that modulate the microbial cells and also act directly upon the infant's cells. Christopher's lab uses stem cells from human tissue to grow organoid "mini-guts." Christopher is using these "mini guts" to investigate the interaction between breastmilk, microbes, and infant host cells. Deeper understanding of this will help develop new and effective therapies for preterm babies.

Dr Stineke Van Houte, University of Exeter

Developing new tools to tackle antibiotic resistance

Overcoming the threat of growing antibiotic resistance would be ground-breaking. Stineke studies interactions between genetic parasites, such as bacteriophages and plasmids, and their bacterial hosts. Her work aims to develop new tools to remove antibiotic resistance genes from microbial communities in patients. Research at the Van Houte lab uses the CRISPR-Cas9 enzyme to develop new methods to target antibiotic resistance genes in microbial communities in the gut, where different bacterial species and other microorganisms share a habitat and often interact.

PROFESSOR SIR ALEX MARKHAM
REACHES THE END OF HIS 11-YEAR TENURE AS CHAIR OF THE LISTER INSTITUTE

As Professor Sir Alex Markham reaches the end of his 11-year tenure as Chair of the Lister Institute, we speak to him about his career to date.

Born in Manchester, Alex attended the University of Birmingham to study Chemistry. During a subsequent PhD with Profs AS Jones and RT Walker, these *"supportive mentors"* stimulated Alex's lifelong interest in the nucleic acids.

While most of his PhD contemporaries moved on to the United States, Alex did his first post-doctoral placement in Osaka, Japan, with Professors M. Ikehara and E. Ohtsuka. Here, he contributed to some of the earliest work on chemical synthesis of fragments of RNA, including the total synthesis of a functional tRNA molecule.

" Although the science was fantastic, having a conversation was a challenge at first," says Alex. *"I got into the habit of working a lot. That's something that never left me."*

After a short period working for Nobel Laureate, Sir Derek Barton, Alex embarked on his first job in industry with G.D. Searle Pharmaceuticals. At that time, it had the best containment facilities for molecular biology in the UK.

Alex moved to ICI Pharmaceuticals in 1979. *"I was surrounded by wonderfully talented people, who invented many of the drugs that remain cornerstones of medical oncology and cardiology to this day,"* says Alex.

But he could see that the pharmaceutical industry was changing, and that the chemist would no longer be king. He decided to train again in medicine at St Mary's, Paddington.

" Understanding biomedicine opened my eyes to endless research possibilities," says Alex. He continued to run his research group at ICI on a part-time basis. *"I used to nip out of the anatomy classes on a Friday afternoon and catch the train from Euston to Wilmslow for weekends in the lab. That means I still don't know much about anatomy below the knee,"* he jokes.

After qualifying and clinical training, Alex returned to ICI to help run a diagnostics division. This marked his first interaction with the Lister Institute, as he worked closely with Alec Jeffreys to commercialise his recent invention – DNA fingerprinting.

" The thing that really fascinated me was inherited disease and genetics," he says. *"Drug companies at that time weren't remotely interested because these were thought to be untreatable diseases that only affect small numbers of people."*

Direct access to patients would be essential to study these conditions, so Alex found himself drawn back to clinical work. *"I was 41 years old,"* he laughs, *"running up and down the seven storeys of the John Radcliffe Hospital with the cardiac arrest bleep. The nurses would tell me to lie down when I arrived, because I looked worse than the patients."*

After this, Alex joined the University of Leeds as Professor of Medicine – a position he retains to this day. His group has identified some of the mutant genes that cause deafness, eye disease, and certain immunological or neurological deficiencies. Particular highlights were the discoveries of the mutant genes

causing the clinical sign *"clubbing"* and those that determine the size of the human brain.

In 2003, Alex became the first substantive Chief Executive of Cancer Research UK, when the Cancer Research Campaign and Imperial Cancer Research Fund merged.

During his five-year tenure, the newly formed charity massively increased its income, sustaining its research base whilst revitalising and opening new research institutes and research centres. It invested heavily in clinical research, demonstrated the benefits of screening for cervical and breast cancer and rolled out NHS bowel cancer screening programmes. Drugs that entered routine use included abiraterone for prostate cancer and temozolamide for brain tumours.

Alex helped bring the 2006 Ban on Smoking in Public Places into force, which he says was *"a huge achievement, because we really had to shift political opinion."*

Since leaving Cancer Research UK, Alex has chaired numerous panels and funding committees and served at the MHRA. He has also spent many years trying to make patient data available confidentially for research purposes.

" Between 2008 and 2012, we were able to bring together cancer registry data, primary care data, hospital episode statistics and death records from the Office for National Statistics. Linking those four datasets as the National Cancer Intelligence Network (NCIN) created a powerful tool to highlight NHS problems and help improve cancer outcomes."

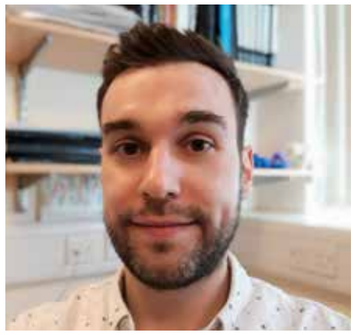
Regrettably, the NCIN fell apart following the creation of Public Health England in 2013, but Alex remains passionate about making patient data more widely available to save lives. He sits on the boards of UK Biobank (which gained consent to share the anonymised patient data from its 500,000 participants) and Health Data Research UK (where he has also helped set up the new British Heart Foundation Data Science Centre). He also enjoys his work as a Board Non-Executive Director for the NIHR National Clinical Research Network and the Innovate UK Medicines Discovery Catapult.

" By being patient, our funds have increased about fourfold, and we've been able to increase the number of Fellowships significantly."

Alex gives thanks to the people who have supported him during his time at the Lister: Trevor Hince, Kate Law, Sally Burtles, Naomi King, Nicola King and his many wonderful colleagues on the Governing Body. His successor will be Professor John Iredale, who currently chairs the Scientific Advisory Committee.

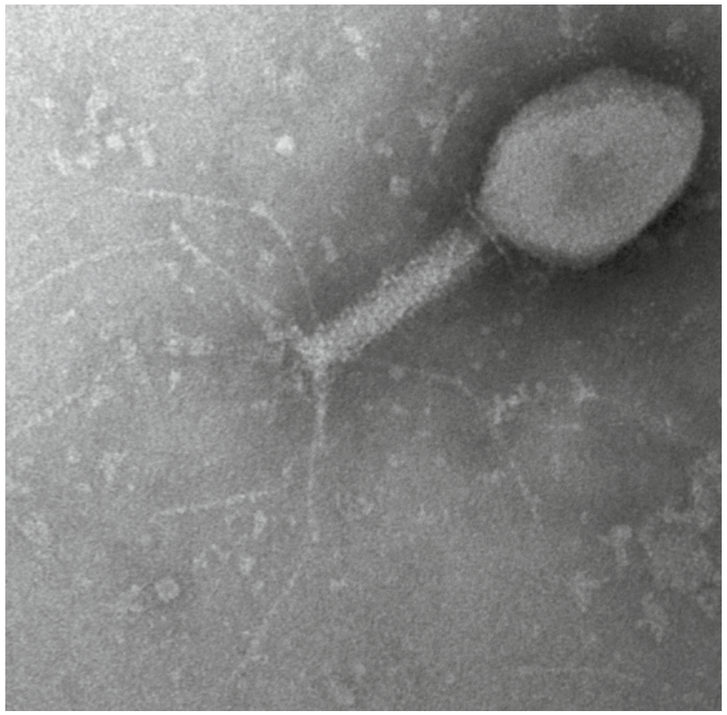
" We're thinking carefully about what additional support we can give our current Fellows in the wake of the pandemic," concludes Alex. *"I am leaving that work in John's very capable hands."*

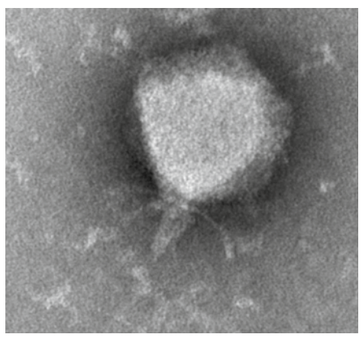
UNDERGRADUATES
GO PHAGE-HUNTING

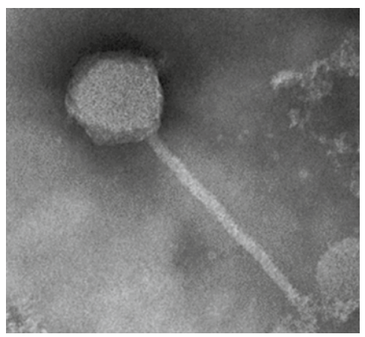


Dr Tim Blower was awarded the Lister Prize Fellowship in 2019. His lab at Durham University is interested in how bacteria protect themselves from bacteriophages (phages). In particular, they explore the phage-resistance system known as BacteRiophage EXclusion (BREX), which was first identified in 2015.

"We know that BREX stops phages, and we know it's something to do with methylation of DNA, but it's far more complex than restriction-modification," explains Tim.







By learning more about the interactions between phages and their hosts, Tim's lab intends to contribute to the fight against antibiotic resistance. Ultimately, phages could be used as an alternative to traditional antibiotics.

Tim also hopes that his research will build a better understanding of the mechanisms underlying BREX to inform the development of new techniques. Historically, research into the relationships between phages and host bacteria has resulted in a number of widely used biomedical technologies. Understanding restriction-modification and CRISPR-Cas are the foundations of the recombinant DNA and genome editing revolutions.

The lab's research has already identified a new defence system, called BrxU, which has potential as a useful tool. The bacterial DNA modifications that BrxU recognises are also found in human DNA. BrxU could prove to be a way of mapping changes in human DNA during ageing or as a result of diseases such as cancer.

This research was published in October 2021. It acknowledged 97 undergraduates who isolated the bacteriophages that were used in the study.

Tim is a huge advocate for research-led teaching, which combines academic knowledge with practical skills to contribute to his lab's ongoing research. This activity plays a vital role in inspiring young researchers to consider biomedical careers. In Tim's Bacteriophage Workshops, undergraduate students isolate new phages from waterways local to the university.

One of the first undergraduates to take part was Izaak Beck:

"Contributing to research at Durham was a fantastic and inspiring experience as an undergraduate. From our samples, we purified and studied E. coli bacteriophages using a range of microbiological, biochemical and imaging techniques. These bacteriophages are still used to this day in the Blower Lab for further study of a defence system against them."

Izaak stayed on in Tim's lab to do an MSc by Research. Now in the final year of his PhD, Izaak is studying the structural biology and biochemistry of the interactions between toxin-antitoxin systems.

"After visualising their discoveries, the undergrads get to name them," says Tim. "So, we've got Smiley, Phage Against the Machine, and Phage and Onion Stuffing, to name a few!"

Another of Tim's former students, Elisabeth Waller, credits Tim's Bacteriophage Workshop with inspiring her to complete a Master's in Medical Microbiology. She has since worked in a virological laboratory with viruses such as rabies, West Nile virus, and COVID-19, although she currently spends her days investigating microbes more than growing them in the lab.

"The workshop was enjoyable, thought-provoking, and broadened my knowledge of laboratory techniques," says Elisabeth. "I was most excited to use the scanning electron microscope to visualise our phages. I can proudly say my career in microbiology started with this bacteriophage workshop – and it is an experience I still look back on fondly."

Picton, D.M., Luyten, Y.A., Morgan, R.D., Nelson, A., Smith, D.L., Dryden, D.T.F., Hinton, J.C.D. & Blower, T.R. (2021). The phage defence island of a multidrug resistant plasmid uses both BREX and type IV restriction for complementary protection from viruses. Nucleic Acids Research 49(19): 11257-11273.

Picton, D. M., Harling-Lee, J. D., Duffner, S. J., Went, S. C., Morgan, R. D., Hinton, J. C. D. & Blower, T. R. (2022). A widespread family of WYL-domain transcriptional regulators co-localises with diverse phage defence systems and islands. Nucleic Acids Research 50(9): 5191-5207.

Images:

Dr Tim Blower
Transmission electron micrographs taken by Durham University undergraduates imaging their isolated phages (top) Smiley, (lower left) Jura and (lower right) Barry

ANNUAL MEETING

On Thursday 9 and Friday 10 September 2021, we held our AGM within the beautiful walls of Corpus Christi College in Oxford. Here we review the action-packed agenda.

Lecture from Professor Wolf Reik

Following a warm welcome from Professor Sir Alex Markham, Wolf gave us a rundown of his research in spatially resolving patterns of gene expression for mouse cell atlases and the Reik Lab's work to create a map of mouse organogenesis.

He discussed epigenetic reprogramming and his efforts to create a "cell fate model" that could potentially make predictions about cell fate in human development. He also talked about his team's ongoing research into reversing the ageing of cells through reprogramming induced pluripotent stem (iPS) cells, with implications for wound healing and ageing.

Poster session

On Thursday evening, several students presented posters about their Lister Summer Studentships. Over drinks and a buffet, attendees had time to speak with the students and ask them more about their research projects.

Talks by winners of the 2020 Research Prizes

Dr Tomás Ryan of Trinity College Dublin talked about his neurobiological research, which labels memory engrams to show the information they encode and to look at the real-time activity of these cells in living animals. His work looks specifically at infant amnesia – the memories from our first few years of life that we all lose and has been able to reactivate these infant memories in adult mice.

Dr Stephan Uphoff of the University of Oxford spoke about his research to image DNA repair and mutagenesis in bacteria. Stephan talked about the complexities of DNA and mutagenesis, and how his lab is developing single-molecule imaging to view this in live cells, such as E.Coli. This research is bringing to light how enzymes find their targets of DNA to repair – something which remains unclear. He is using his Lister funding to explore how oxidative stress causes a mutation burst.

Dr Rebecca Lawson of the University of Cambridge and ***Dr Hayley Sharpe of The Babraham Institute*** were unable to attend, but we look forward to hearing them speak next year.

Talks by winners of the 2021 Research Prizes

Dr Tanmay Bharat of the University of Oxford studies the structural biology of biofilms. He showed us the incredible detail with which his newly developed techniques can resolve cell structures, and how this can provide information about what is happening on the surface of bacteria. His Lister-funded work is studying cellular structure down to the level of atomic detail, using these techniques to identify antibiotic targets.

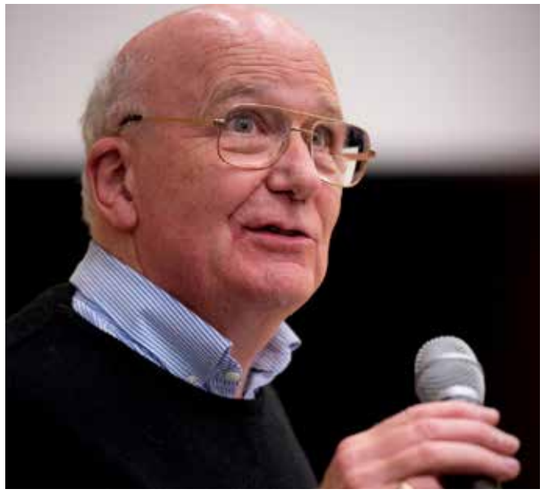
Professor Ravindra Gupta of the University of Cambridge focuses on studying macrophages and their role in HIV infection. His research has revealed the stages of the cell cycle at which macrophages are infected, and consequently shown how infection could be prevented in these cells. He is using Lister funding to understand what the physiological drivers are for cell cycle arrest.

Dr James Lee of the Francis Crick Institute outlined the urgent need for better treatments for inflammatory disease and the unfulfilled potential of genome-wide association studies (GWAS) in identifying gene targets. His "fine mapping" approach assesses all SNPs for whether they have causal impact – a method that can achieve great scale in a single experiment.

Professor Rickie Patani of University College London and the Francis Crick Institute described his work to capture "compartmental chaos" in motor neuron disease (ALS). Methods created by his lab generate 90% pure spinal cord motor neurons from patient-derived iPS cells in three weeks. Rickie has found that the TDP-43 binding protein is mislocalised in these cells, leading to cell death. His Lister-funded research aims to reveal far more detail about this

Dr Stineke Van Houte of the University of Exeter explained how she is using CRISPR-Cas9 to study complex, realistic microbial communities. Her research demonstrates that inserting CRISPR-Cas9 into plasmids resensitises a range of bacteria to antibiotics. She is seeking the best "phage cocktail" for getting plasmids into bacteria, engineering plasmids, measuring their effectiveness in gut cells, and creating an in vivo model of infection prevention.

Dr Christopher Stewart of Newcastle University was unable to attend, but we eagerly anticipate his talk in 2022.



Special Lister Lecture from Professor Doug Higgs

Doug, Professor of Molecular Haematology and Director of the Weatherall Institute of Molecular Medicine, regaled everyone with anecdotes from his long and illustrious career. He talked about his discoveries of the multigene clusters that regulate haemoglobin production and described how his lab worked out the genetics underlying alpha thalassaemia, carried by hundreds of millions of people.

Doug also discussed his ongoing research into epigenetics, exploring the interactions between enhancers and promoters and the mechanisms by which they regulate gene expression to create real-time "snapshots" of gene expression.

The Annual Event (pandemics aside) is an excellent opportunity for our members to meet, share ideas, celebrate successes, and build connections. We look forward to another fantastic meeting in 2022.

Talk by Professor Victoria Cowling

Victoria, the University of Dundee, became a Lister Fellow in 2011. She studies how formation of the RNA cap changes in cancer, immunological, basal, and developmental states. Much of this work focuses on the role of RNMT – an enzyme that plays a key role in the process by binding to the cap. She is now looking at mouse cancer models to work out why some genes need RNMT and why some do not.

Save the date!

The 2022 Annual Fellows Meeting is being held at Corpus Christi in Oxford on Thursday 8 September - Friday 9 September 2022

CURRENT
LISTER PRIZE FELLOWS

For the full list of all Lister Fellows (past and present) please see the Lister website
https://www.lister-institute.org.uk/former-fellows/

Fellow	*Title of Research*	*Awarded*
Dr Tom Baden University of Sussex	Anisotropic retinal circuits for processing of colour and space in nature	2018
Dr Tanmay Bharat University of Oxford	In situ structural studies of the functional organisation and inhibition of the BAM complex in Gram-negative bacteria	2021
Dr Timothy Blower Durham University	BREX and phage-bacteria interactions	2019
Dr Ross Chapman University of Oxford	DNA double-strand break repair mechanisms in immunity and oncogenesis	2019
Dr Rebecca Corrigan University of Sheffield	Analysis of the role of (p)ppGpp in staphylococcal infection using zebrafish as a model organism	2018
Dr Mark Dodding University of Bristol	A new chemical biology approach to target molecular motors for the manipulation of cytoskeleton and organelle dynamics	2018
Professor Sherif El-Khamisy University of Sheffield	The repair of oxidative and topoisomerase induced chromosomal strand breaks and human disease	2013
Dr Susana Godinho Queen Mary University of London	Regulation of paracrine signalling by centrosome amplification	2016
Dr Sebastian Guettler The Institute of Cancer Research	Structural basis and mechanism of telomere maintenance by poly(ADP-ribosyl)ation	2017
Professor Ravindra Gupta University of Cambridge	Cell cycle regulation in Macrophages	2021
Dr Sophie Helaine Imperial College London Harvard Medical School	Salmonella Persister formation at the single cell level	2017
Dr Matthew Hepworth University of Manchester	Targeting cell metabolism to regulate innate lymphoid cells in health and disease	2018
Dr Joanne Konkel University of Manchester	Atypical monocytes at the oral mucosa; revisiting myeloid cell development and function at a unique barrier site	2019
Dr Yogesh Kulathu University of Dundee	Regulation and function of protein FUBlylation	2017
Dr Rebecca Lawson University of Cambridge	Computational neurodevelopment: a new framework for understanding autism spectrum disorder	2020
Dr James Lee The Francis Crick Institute	From SNPs to biology in inflammatory diseases	2021
Dr Michelle Linterman Babraham Institute	Tertiary lymphoid structures in health and disease	2019
Dr Yanlan Mao University College London	Mechanochemical regulation of tissue growth and morphogenesis	2018
Dr Joseph Marsh University of Edinburgh	The dominant-negative effect in protein complexes: implications for human genetic disease	2018
Dr Will McEwan University of Cambridge	Protein-level knockdown as a new frontier for biological and biomedical sciences	2019
Dr James Nathan University of Cambridge	The interplay between metabolism and oxygen sensing	2017
Professor Rickie Patani UCL & The Francis Crick Institute	Identifying therapeutically targetable RNA binding proteins in ALS	2021
Dr Rahul Roychoudhuri University of Cambridge	Resolving mechanisms of gene regulation within the immune system using forward genetics	2017
Dr Tomás Ryan Trinity College Dublin	Gone or Misplaced? – Retrieving Infant Memories in Adults	2020
Dr Amanda Sferruzzi-Perri University of Cambridge	Biomarkers of materno-fetal health: role of placental endocrine mediators in normal and obese pregnancies	2018
Dr Hayley Sharpe Babraham Institute	Receptor tyrosine phosphatase signalling mechanisms in health and disease	2020
Professor Daniel Smith University of Edinburgh	Investigating the overlap between hypertension and bipolar disorder to identify new and repurposed medications for bipolar disorder	2016
Dr Christopher Stewart Newcastle University	Using stem cell derived "mini guts" to investigate microbiome-host interaction in early life	2021
Dr Stephan Uphoff University of Oxford	Resolving oxidative stress response mechanisms in bacteria during infection and antibiotic treatment	2020
Dr Stineke Van Houte University of Exeter	Developing new tools to tackle antibiotic resistance	2021

ENVIRONMENT, SOCIAL AND GOVERNANCE OVERVIEW

GOVERNANCE

The Governing Body

Governance of the Lister Institute is overseen by the Governing Body which meets twice a year. Members of the Governing Body are Trustees of the charity and have responsibility to the Charity Commission to ensure the charity is well run and remains true to its purpose. As ever, we must pay tribute to the quality and dedication of the Governing Body members and the speed and clarity with which they respond to Lister matters.

In 2021, Professor Sir Alex Markham, the Chair of the Governing Body, was due to stand down as the longest standing Elected member of the Governing Body. Professor Markham had been chair of the Lister Institute since 2011 and during 2021 a thorough process to identify a new chair was conducted by the GB. The outcome of this process was that Professor John Iredale, currently chair of the Scientific Advisory Committee (SAC) was unanimously agreed to take over as Chair of the Governing Body at the AGM in September 2022 when he will be put forwards for election and will stand down, as scheduled, as chair of the SAC.

As a result Professor Markham was re-elected at the AGM for one additional year to allow a smooth hand over of chairmanship to Professor Iredale before he formally takes over in 2022.

Finance and Investment Committee

The Finance and Investment Committee (FIC) met twice in 2021 and undertook its normal business reviewing the performance of the investment managers and the finances of the Lister Institute.

Every five years the Lister Institute formally undertakes a review of its investment managers. The last review was in 2017. During 2021 the FIC undertook the preparatory work for the review which has been completed in 2022. This included:- a review of the Investment Policy Statement, including distribution and ESG policies, a review of the incumbent manager's investment performance and service (including terms of engagement) and consideration of alternative investment solutions and providers. The outputs of this preparatory work was summarised for final discussion and conclusion by the FIC and Governing Body in March and April 2022. The conclusions were not to change the investment managers, to keep our stance on ESG investments under close review and to invest a proportion of the B portfolio in a "absolute return minded" fund managed by Ruffer LLPs to seek to mitigate the effects of inflation.

Scientific Advisory Committee

In 2021 there were several changes to the SAC membership. Professor Cyrus Cooper stood down after completing his term of office and Professors Fiona Powrie and Magda Zernicka-Goetz stood down due to pressures of work. Professor Muzliffah Hannifa (Newcastle), Professor Iain McInnes (Glasgow) and Professor Tom Owen (Glasgow) all joined the committee.

The SAC met three times this year, on all occasions on-line. The main and most important meeting was the interviews of the short-listed candidates for the Lister Prize Fellowships. The SAC also met in advance of the interviews to undertake the work of the SAC. There was also an additional meeting to consider what the Lister Institute could do in light of the impact pf Covid on the careers of young researchers.

Institute Membership

All Fellows of the Lister Institute become Members when they complete their Fellowship. In addition, all Committee members, previous members of staff and others with a particular interest in the Lister Institute are Members. At present we have 226 Members and they are all eligible to vote at the AGM.

The Fellows who completed their Fellowship in 2021 were, Dr Cynthia Andoniadou (Kings College London); Professor Victoria Cowling (University of Dundee); Dr Aga Gambus (University of Birmingham); Professor Muzlifah Haniffa (Newcastle University); Professor Serge Mostowy (LSHTM) Professor Jan Rehwinkle (University of Oxford); Dr Erica Watson (University of Cambridge) and Professor Steven West (University of Exeter).

As we changed the membership rules in 2021 the majority of the Fellows were already members. Dr Cynthia Andoniadou, Dr Aga Gambus, Professor Muzlifah Haniffa and Professor Jan Rehwinkle all became Lister Members in 2021.

As a new member of the SAC, Professor Iain McInnes also became a Member of the Lister Institute.

ENVIRONMENT

The Lister Institute is a small organisation with a small environmental impact. It has no buildings and all three staff work from home. Essential meetings, such as the Annual Fellows meeting are held in person with travel by public transport encouraged. Other meetings are held on-line.

SOCIAL

Through the biomedical research that it funds the Lister Institute has a beneficial impact on society through direct patient and public benefit e.g. new treatments and diagnostics as well as through the expansion of knowledge and understanding. For the Lister Institute to be successful it is essential that it attracts and retains skilled and talented people. It does this by creating an inclusive working environment where people can be themselves, treating everyone fairly with dignity and respect. We are committed to fairness in our remuneration packages and supporting flexibility at work. Pensions continue to be paid to a small number of former employees.

EQUALITY, DIVERSITY AND INCLUSION (EDI)

We value and embrace EDI and aim to achieve equality, diversity and inclusiveness across the Lister Institute – in our Prize Fellows, our committee members and our staff. While EDI is our aim, we recognise that we still have work to do achieve it. Currently the gender balance in the organisation is as follows: Governing Body 29% female: 71% male; current fellows 30% female: 70% male; staff 100% female. The gender balance at all stages of our application process is monitored and steps are made to address any aspects of the process that may affect the gender balance, though ultimately the highest quality candidates are selected. In 2021 we started to collect other data to allow consideration of wider aspects of equality and diversity to begin to be monitored and addressed. Membership of committees is considered annually and equality and diversity are always considered as part of that process.

FINANCIAL OVERVIEW

Murray Legg, Treasurer

After the volatile markets of 2020, it was comparatively smooth sailing for investments in 2021, despite the ongoing pandemic and associated disruption to our daily lives. However, the FIC has remained vigilant in the face of positive returns, given the possible risks to a rather febrile economic backdrop, not least the growing spectre of inflation. At the time of writing, the war in Ukraine has resulted in steep equity market falls, an illustration of how unforeseen risks can affect financial reserves.

The Lister Institute has its low volatility liquidity reserve fund, which was established to enable the Lister to ride out a major market correction. It continues to provide a buffer against this uncertainty and any ensuing fall in the markets.

Our two investment managers, Cazenove and Partners Capital have successfully handled our portfolio with our investments having a final valuation (after withdrawal of £1.85M for the prize Fellowships and Lister operations) of £47.6M, up from £44.9M at the end of 2020. The FIC will continue to monitor closely our portfolio and there will continue to be careful consideration of the numbers and levels of Fellowships and studentships.

All expenditure has been in line with or below the agreed 2021 budget. The investment managers' fees were £263K, up slightly from £237K in 2020. With six Fellowships being awarded at £250,000K each, £97K spent on studentships and operational costs being £177K the total expenditure for the Lister institute in 2021 was £1.973M

	£K
Prize Fellowships and studentships	1,533
Investment managers fees	263
Staff and operational costs	177
TOTAL	**1,973**

The Lister Institute remains indebted to our all the members of the Finance and Investment Committee, and I would like to thank them all for their scrutiny of the Institute's finances and the rigorous questioning of our current investment advisors, Partners Capital LLP and Cazenove Capital Management. We are particularly grateful to Murray Legg for his contribution as Treasurer and chair of the FIC.

Alex Markham, Chairman

REPORT OF THE GOVERNING BODY
for the year ended 31 December 2021

The Governing Body presents its Annual Report under the Charities Act 2011 together with the audited Financial Statements of the Charity for the year ended 31 December 2021. The Financial Statements have been prepared in accordance with the accounting policies set out in Note 1 (page 27) to the Financial Statements and comply with the Companies Act 2006, the FRS102 Charities SORP and the documents governing the constitution of the Charity.

LEGAL AND ADMINISTRATIVE DETAILS

Legal and administrative information is set out on page 33 of this report.

Members of the Governing Body, Directors and Trustees

The members of the Governing Body are, for the purposes of company law, Directors of the Institute and, for the purposes of charity law, Trustees of the Institute and throughout this report are collectively referred to as the Trustees.

Details of the Trustees serving throughout the year are set out on page 33.

STRUCTURE, GOVERNANCE AND MANAGEMENT

Constitution

The Institute is registered with the Charity Commission for England and Wales (registration number 206271). It is incorporated and registered in England and Wales under the Companies Act 2006 as a company limited by guarantee and not having a share capital (company number 34479). It is governed by its Articles of Association and has charitable status.

Appointment and Re-appointment of Trustees

The Trustees are the fourteen members of the Governing Body of whom six are elected by the members at the annual general meeting. A maximum of six further Trustees are appointed by the Governing Body and there are currently five such appointees. One additional member is Lord Iveagh's representative, another is Professor Sir Alec Jeffreys who was appointed to life-membership, and the final member, Professor Douglas Higgs, is the representative of the Royal Society. Trustees, other than the two nominated representatives, Professor Sir Alec Jeffreys and exceptionally those appointed by the Governing Body, generally serve for a period of six years and a system of planned rotation is in place. When considering appointment or nomination for election as Trustees, the Governing Body has regard to the specialist skills needed.

Induction and Training of Trustees

New Trustees undergo induction sessions with the Chairman, Treasurer and Director during which they will gain an understanding of the Institute's structure, activities, financial position and future strategies. Prior to appointment they will attend one meeting of the Governing Body as 'observers'. New Trustees will also be made aware of their legal obligations with regard to charity and company law. In addition, new Trustees will be advised of appropriate literature and training courses. An Induction check list supports the process.

Organisation

The Institute is governed by its Governing Body which is responsible for setting policies, authorising actions on all significant operational issues and ensuring legality and good practice. The Governing Body meets formally twice a year. The Treasurer and Chairman review the remuneration of all staff once a year. This includes the remuneration of those individuals considered to be key management personnel.

Specific authorities are delegated to two sub-Committees in particular areas. The Scientific Advisory Committee (see page 33 for membership) has responsibility for identifying the Lister Institute Prize Fellows and the monitoring of their scientific activities, as well as providing scientific and medical advice to the Governing Body as required. The Finance and Investment Committee (see page 33 for membership) has responsibility for interaction with the Institute's investment advisors, ensuring implementation of the Institute's investment policy and monitoring performance. It prepares and submits to the Governing Body the annual budget, and subsequently monitors performance against it. It also advises the Governing Body, as required, on other financial and risk matters.

The routine management of the Institute's activities is undertaken by its Director, aided by the Operations Manager and the Accountant. All staff work from home.

In 2021, one of the Charity's Trustees received remuneration in relation to their work for the charity. This is the chairman of the SAC who is the only one of the trustees who is offered any remuneration in relation to their dealings with the Charity. They are offered a small honorarium in recognition of the very significant workload associated with the role.

The Chairman and the Treasurer of the Charity agree the Director's remuneration which, along with other Lister Institute staff, is normally increased in line with RPI. Salaries are also compared to similar organisations and adjusted periodically where appropriate.

Risk Management

The Trustees assess the risks facing the Institute and review the effectiveness of the controls to monitor and mitigate them. A Risk Management Register is maintained and formally reviewed annually by the Governing Body.

The key controls used by the Institute include:

- Formal agendas for all Governing Body meetings
- Strategic planning, budgeting and management accounting
- Formal written policies

- Clear authorisation and approval levels
- Regular review of Fellows' scientific reports

The risk of cybersecurity is considered by the Trustees on an ongoing basis and amendments have been made to the risk log. A cyber-security policy for staff has been developed. IT support for staff has been changed to a new company and now involves more formal and regular security updates and regular training for staff. An online grants management system called Benefactor has been implemented to improve the security around the application process.

In recent years, the risk logs, terms and conditions, policies and procedures have been adapted and updated to address the specific risks of bribery, scientific misconduct and data protection. The terms and conditions are being reviewed again in 2022. The risk register is reviewed annually and policies are reviewed regularly as defined within each policy.

The Institute maintains a 'Register of Interests' for all Governing Body and committee members as well as principal staff and operates a clear "declaration of interests" policy and procedures for all meetings.

The principal risk facing the Institute lies in its ability to maintain and protect the value in real terms of its investments and to generate from them, on a long-term basis, a consistently high overall return. This risk is mitigated by the Institute's appointment of experienced investment managers with a proven track record; by internal controls that allow close and regular monitoring of their performance against benchmarks; by the Institute's requirement of its investment managers to re-tender periodically and competitively for appointment; and by regular meetings that formally review investment performance and policy and include one-to-one presentations by the investment managers. The investment manager review was conducted in early 2022 and much of the preparative work for this was conducted in 2021.

Investment Policy Statements are in place for the Lister Institute and its investment partners. These are reviewed on an annual basis.

Objectives and Activities

The statutory Object of the Institute is to further the understanding and progress in preventive medicine by promoting excellence in biomedical research in the UK and Ireland.

When founded in 1891, the Institute sought to achieve this objective by establishing a research institute specialising in the area of "infections" and their prevention by immunisation and other means. It complemented these research activities by the production and supply of materials such as vaccines and anti-toxins.

The Institute continued in this mode until the late 1970s when increasing financial and regulatory pressures caused the cessation of these activities. Proceeds from the resultant sale of land and buildings created the investment funds from which present-day activities are financed; at 31 December 2021 these funds stood at £47.6M. From the 1980s the Institute has pursued its objective of nurturing future leaders by the provision of grant funding to facilitate the research and careers of high-quality individuals working in areas of biomedicine relevant to preventive medicine. It has done this because it believes that the acquisition and advancement of knowledge is crucial to the understanding of health and disease and that research to achieve this is driven forward by high quality individuals and their supporting staff.

Principal Activities

In pursuance of this objective, during 2021 the Institute awarded six new Prize Fellowships. In addition, the Institute has continued its Summer Studentship scheme. Generally, this has enabled an increasing number of undergraduates per year to work with Lister Institute Fellows or former Fellows in order to gain experience of biomedical research with the hope that they might consider it as a career. In 2021, 41 studentships were awarded.

Achievement and Performance

The Scientific Advisory Committee has monitored the performance of the current 30 Lister Institute Prize Fellows through review of their annual scientific research reports that includes the progress they are making, as well as all publications and presentations. The Scientific Advisory Committee has reported to Trustees that it is of the view that all Fellows are undertaking high quality research and producing new knowledge that will contribute significantly to our understanding of disease, its causes, treatment and prevention. The reports of the research undertaken by the Summer Students have also been reviewed and found to be satisfactory.

Six Lister Institute Prize Fellowships were awarded in 2021 to Dr Tanmay Bahrat, Professor Ravindra Gupta, Dr James Lee, Professor Rickie Patani, Dr James Stewart and Dr Stineke Van Houte from an initial field of 145 applicants. They were awarded following extensive scientific review of their applications and final interview by the Scientific Advisory Committee. (More details of the Prize Fellows and their research are provided on pages 2 and 3). Each Prize Fellowship provides £250K with the funds provided to the host institution at the commencement of the award. Normally Lister Prize Fellowships may be spent over five years on the recipient's research, however in 2021 (and 2020) they were awarded for 6 years to allow for the early limitations and likely slow start caused by the pandemic.

Forty one Summer Studentships were awarded in 2021. Each is a £2,350 student bursary and is paid to the host institution at the commencement of the award for the support of the student for up to a ten-week period.

Public Benefit

The statutory objectives, aims and activities of The Lister Institute of Preventive Medicine are to further understanding in preventive medicine by promoting biomedical research, as set out on page 18 of this Report. The Trustees have considered the Charity Commission's guidance on public benefit, including the guidance 'public benefit: running a charity (PB2)'.

The public benefit of the Institute's grant-making is clearly identifiable in the 'Achievement and Performance' paragraphs above and in the list of Research Prize Fellows together with their areas of research on pages 12 to 13. All Lister Institute Fellows are actively encouraged, where appropriate, to develop their research findings for potential public benefit and the Scientific Advisory Committee has regard to this when reviewing their research reports. The Lister Institute therefore benefits the public or a sector of it without imposing any restrictions. Applications from individuals are accepted only when demonstrably consistent with the charitable objectives of the Institute.

Impact

The impact of the activities of a medical research charity can be measured at many levels ranging from the growth of knowledge to direct patient/public benefit. Often the transition from the former to the latter may take many years and the involvement of several organisations. The Institute requires that the results of the research it supports are published and disseminated; that, where appropriate, significant intellectual property is protected via patents; and that its commercial development is encouraged. Several biotechnology companies have been formed around the findings of Institute-funded research and there are several interactions with large pharmaceutical companies. A prime example of the impact of Lister Institute research is DNA fingerprinting, which was discovered by Sir Alec Jeffreys when a Lister Institute Fellow, and has become an integral part of society, helping to prove innocence or guilt in criminal cases, resolving immigration arguments and clarifying paternity.

Investment Policy and Performance

The Institute's investment objective is to develop and maintain its financial resources in real terms through the selection of investments, consistent with an acceptable level of risk.

The Institute's investment portfolio is split between Cazenove Capital Management and Partners Capital LLP who both operate under mandates agreed in advance with the Finance and Investment Committee. These mandates set out an overall target asset allocation with allowable ranges for each category of asset.

Both investment managers invest on a total returns basis through a variety of pooled funds and in accordance with the Institute's overarching "Investment Policy Statement" ("IPS"), which states the overall investment objective and sets the investment return objectives, the risk parameters, the performance measures and review procedures for the portfolio. The Institute's IPS was reviewed and revised in 2021. Specific versions were also agreed for each of the investment managers to reflect their individual investment approaches. The IPS's are reviewed annually. The Institute reiterates its likely cash requirements, both in terms of the amount and the timing of any withdrawal.

The Institute's IPS also includes reference to an ethical investment policy which does not permit direct investment in tobacco or tobacco-related companies. A workshop was held to discuss the Lister's position on ethical investments where it was agreed that our focus would remain on balancing ethical investments and returns (and endeavouring to better define our views as to what constitutes an ethical investment.) While there was no compelling argument for a significant change in strategy at this time, the Lister's stance on ESG would be kept under close review.

The Institute's overall financial return objective is to preserve and, if possible, enhance the purchasing power of its portfolio assets, net of costs and approved withdrawals, over rolling five-year periods. This goal is synonymous with the pursuit of a time-weighted net return on portfolio assets that equals and, if possible, exceeds cost inflation as measured by the UK Consumer Price Index plus the Institute's long-term spending rate of 3-4% measured over corresponding five-year periods. This goal has been achieved over the previous five-year period.

The performance of the investment portfolio is reviewed by the Finance and Investment Committee, which held two meetings in the year with the investment advisors to review performance, liquidity within the portfolio etc. In addition, the Institute receives detailed quarterly valuation and transaction reports. In a year that saw less volatility in the market the fund has grown from £44.86M to £47.6M. A decision, taken in 2015 (and ratified in subsequent years), to withdraw and place £5M in a Liquidity Account was based both on the recent strong growth of the portfolio but also concerns about future market volatility and performance. Given the increase in the number and level of the Fellowships a further discussion was held in 2021 and the decision was made to maintain £5M in this Account, on a rolling basis, to be reviewed annually. As a result of the Investment Managers Review it was agreed that a proportion of this £5M would be invested in an 'absolute return minded' fund - Ruffer Charitable Assets Trust that will hopefully help protect against the worst ravages of inflation. This decision will ensure that six Prize Fellowships of £250K each can be awarded for at least three years from 2022.

More details of the Institute's activities are set out in the Chairman's Report on pages 1 to 13.

FINANCIAL REVIEW

Allocation of Resources

The Institute, which does not seek to raise funds from the public, depends primarily on investment returns to meet its pension provision payments, administrative expenditure and expenditure in furtherance of the Charity's objectives. The total return on investments for the year was a net gain of £4.265M and investment income of £612K.

The resources expended totalled £1.973M of which £1.710M were resources expended for the Institute's charitable activities.

The Prize Fellowships are fixed sum awards and, therefore, expenditure can be regulated by altering the number and/or value of prizes awarded each year. In 2021, prizes were awarded to six very strong candidates. As previously described, a £5M liquid portfolio has been established so that the number and level of awards is sustainable over a minimum of three years. Forty one studentships were awarded in 2021.

Payments are currently made to three pensioners who are previous employees of the Lister Institute. The Institute's unfunded pension liability is some £134,000. Given the value and nature of our investments, we do not believe pension funding to be a concern.

Reserves Policy

The policy of the Trustees is to maintain adequate financial resources to provide income to meet current and future commitments as they fall due and ensure that adequate funds remain available to enable them to make awards in perpetuity.

The adequacy of the level of reserves (£47.68M at the end of 2021) and the continuing appropriateness of the policy are reviewed on an annual basis by the Trustees. They continue to endorse the policy and its ability to support the long-term viability of the Institute and, given that the Institute is not formally committed to awarding any Prizes beyond the current year, are confident in the ability of the Institute to maintain appropriate levels of activity in the short-term.

Plans for the Future

The Institute's future policy is to continue to pursue its current objectives. It will therefore maintain and look to increase the Prize Fellowship scheme, which it sees as a funding priority. As a result of the SAC's discussion about what the Lister Institute could do to mitigate the impacts of Covid on young researchers the Governing Body has agreed that if there are sufficient high-quality candidates, the SAC may award up to 7 Lister Prizes in 2022. The Summer Studentship scheme will also be increased when possible.

Trustee Responsibilities Statement

The Trustees (who are also directors of The Lister Institute of Preventive Medicine for the purposes of company law) are responsible for preparing the Trustees' Annual Report and the financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

Company law requires the Trustees 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 period. In preparing these financial statements, the Trustees are required to:

- select suitable accounting policies and then apply them consistently;
- observe the methods and principles in the Charities SORP;
- make judgments 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 in business.

The Trustees 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.

In so far as the Trustees are aware:

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

The Trustees 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.

This Trustees' report has been prepared in accordance with the special provisions of Part 15 of the Companies Act 2006 relating to small companies.

By Order of the Governing Body

SIR ALEXANDER F MARKHAM, Chairman
MURRAY LEGG, Treasurer

27 April 2022

INDEPENDENT AUDITOR'S REPORT
to the Members of the Lister Institute of Preventive Medicine

Opinion

We have audited the financial statements of The Lister Institute of Preventive Medicine ('the company') for the year ended 31 December 2021 which comprise the Statement of Financial Activities, the Balance Sheet, the Cash Flow Statement and notes to the financial statements, including a summary of significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including FRS 102 'The Financial Reporting Standard Applicable in the UK and Republic of Ireland' (United Kingdom Generally Accepted Accounting Practice).

In our opinion the financial statements:

- give a true and fair view of the state of the charitable company's affairs as at 31 December 2021 and of its incoming resources and application of resources, including its income and expenditure, for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Companies Act 2006.

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

In auditing the financial statements, we have concluded that the trustees' use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

Based on the work we have performed, we have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the charitable company's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

Our responsibilities and the responsibilities of the trustees with respect to going concern are described in the relevant sections of this report.

Other information

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

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

We have nothing to report in this regard.

Opinions on other matters prescribed by the Companies Act 2006

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

- the information given in the trustees' annual report for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the trustees' annual report have been prepared in accordance with applicable legal requirements.

Matters on which we are required to report by exception

In the light of the knowledge and understanding of the company and its environment obtained in the course of the audit, we have not identified material misstatements in the trustees' annual report.

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

- adequate accounting records have not been kept, or returns adequate for our audit have not been received from branches not visited by us; or
- the financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of trustees' remuneration specified by law are not made;
- we have not received all the information and explanations we require for our audit; or
- the trustees were not entitled to prepare the financial statements in accordance with the small companies regime and take advantage of the small companies exemption in preparing the Trustees' Annual Report and from preparing a Strategic Report.

Responsibilities of Trustees

As explained more fully in the trustees' responsibilities statement set out on page 20, the trustees (who are also the directors of the charitable company for the purposes of company law) are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view, and for such internal control as the trustees 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 aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Irregularities, including fraud, are instances of non-compliance with laws and regulations. We design procedures in line with our responsibilities, outlined above, to detect material misstatements in respect of irregularities, including fraud. The extent to which our procedures are capable of detecting irregularities, including fraud is detailed below.

Explanation as to what extent the audit was considered capable of detecting irregularities, including fraud

The objectives of our audit in respect of fraud, are; to identify and assess the risks of material misstatement of the financial statements due to fraud; to obtain sufficient appropriate audit evidence regarding the assessed risks of material misstatement due to fraud, through designing and implementing appropriate responses to those assessed risks; and to respond appropriately to instances of fraud or suspected fraud identified during the audit. However, the primary responsibility for the prevention and detection of fraud rests with both management and those charged with governance of the charitable company.

Our approach was as follows:

- We obtained an understanding of the legal and regulatory requirements applicable to the charitable company and considered that the most significant are the Companies Act 2006, the Charities Act 2011, the Charity SORP, and UK financial reporting standards as issued by the Financial Reporting Council.
- We obtained an understanding of how the charitable company complies with these requirements by discussions with management.
- We assessed the risk of material misstatement of the financial statements, including the risk of material misstatement due to fraud and how it might occur, by holding discussions with management.
- We inquired of management and those charged with governance as to any known instances of non-compliance or suspected non-compliance with laws and regulations.
- Based on this understanding, we designed specific appropriate audit procedures to identify instances of non-compliance with laws and regulations. This included making enquiries of management and those charged with governance and obtaining additional corroborative evidence as required.
- In addressing the risk of fraud due to management override of internal controls we tested the appropriateness of journal entries and assessed whether the judgements made in making accounting estimates were indicative of a potential bias.

Due to the inherent limitations of an audit, there is an unavoidable risk that we may not have detected some material misstatements in the financial statements, even though we have properly planned and performed our audit in accordance with auditing standards. For example, as with any audit, there remained a higher risk of non-detection of irregularities, as these may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls. We are not responsible for preventing fraud or non-compliance with laws and regulations and cannot be expected to detect all fraud and non-compliance with laws and regulations.

As part of an audit in accordance with ISAs (UK) we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purposes of expressing an opinion on the effectiveness of the charitable company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the trustees.
- Conclude on the appropriateness of the trustees' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the charitable company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the charitable company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

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 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 any party other than the charitable company and charitable company's members as a body, for our audit work, for this report, or for the opinions we have formed.

LUKE HOLT (Senior Statutory Auditor)
for and on behalf of Moore Kingston Smith LLP, *Statutory Auditor*

Devonshire House
60 Goswell Road
London EC1M 7AD

July 2022

STATEMENT OF FINANCIAL ACTIVITIES

for the year ended 31 December 2021

	Notes	2021	2020
		£'000	£'000
Income from:			
Investments	2	**612**	580
Other	3	**0**	13
Total income		**612**	593
Expenditure on:			
Cost of raising funds			
Investment management costs	4	**(263)**	(237)
Charitable Activities			
Prizes and Summer Studentships	6	**(1,711)**	(1,152)
Total expenditure		**(1,974)**	(1,389)
Net gains on investments	9	**4,265**	2,282
Net income		**2,903**	1,486
Other recognised losses:			
Actuarial losses on defined benefit schemes	13	**(19)**	(13)
Net movement in funds		**2,884**	1,473
Reconciliation of funds:			
Total funds brought forward		**44,794**	43,321
Total funds carried forward		**47,678**	44,794

All items in the above Statement of Financial Activities relate to continuing operations for both years.
The Institute has no other recognised gains and losses other than as stated above and hence no separate income and expenditure statement has been shown.

The notes set out on pages 27 to 32 form part of these financial statements.

BALANCE SHEET

as at 31 December 2021 Company no: 34479

	Notes	2021	2020
		£'000	£'000
Fixed assets:			
Investments	9	**47,597**	44,858
Total fixed assets		**47,597**	44,858
Current assets:			
Debtors	10	**5**	26
Cash at bank and in hand	11	**283**	132
Total current assets		**288**	158
Current liabilities:			
Creditors: amounts falling due within one year	12	**(73)**	(88)
Net current assets		**215**	70
Total assets less current liabilities		**47,812**	44,928
Creditors: amounts falling due after more than one year			
Pension provision	13	**(134)**	(134)
Net assets		**47,678**	44,794
Represented by			
Unrestricted funds		**47,678**	44,794
Total charity funds		**47,678**	44,794

The Trustees have taken advantage of the exemptions conferred by the Companies Act 2006, on the grounds that the Institute is entitled to the benefit of those exemptions as a small company.

These financial statements were approved by the Governing Body on 27 April 2022

ALEXANDER F MARKHAM
MURRAY LEGG
Members of the Governing Body

The notes set out on pages 27 to 32 form part of these financial statements.

CASH FLOW STATEMENT

for the year ended 31 December 2021

	2021	2020
	£'000	£'000
Cash flow/(outflow) from operating activities		
Net cash used in operating activities	**(1,997)**	(1,401)
Cash flows from investing activities		
Investment income	**612**	580
Proceeds from disposal of fixed asset investments	**16,474**	13,572
Acquisition of fixed asset investments	**(14,042)**	(12,790)
Other movements on investments	**(896)**	(132)
	151	(171)
Net increase / (decrease) in cash	**151**	(171)
Cash and cash equivalents at beginning of year	**132**	303
Cash and cash equivalents at end of year	**283**	132

Reconciliation of net income to net cash flow from operating activities

	2021	2020
	£'000	£'000
Net income	**2,884**	1,473
Adjustments for		
Net gains on investments	**(4,265)**	(2,282)
Investment Income	**(612)**	(580)
Increase / (decrease) in debtors	**21**	(18)
Decrease / (Increase) in creditors	**(25)**	15
Decrease in pensions	**0**	(9)
Net cash used in operating activities	**(1,997)**	(1,401)

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 December 2021

1 PRINCIPAL ACCOUNTING POLICIES

Basis of preparation

The Financial Statements have been prepared in accordance with the Statement of Recommended Practice, Accounting and Reporting by Charities (FRS102 SORP). The Financial Statements are prepared in accordance with the historical cost convention modified by the revaluation of investments. The charity is a Public Benefit Entity as defined by FRS102.

The Financial Statements are prepared in sterling which is the functional currency of the Charity. Monetary amounts in these Financial Statements are rounded to the nearest thousand pounds.

The principal accounting policies adopted in the preparation of the Financial Statements are as follows:

Income

All incoming resources are accounted for on a receivable basis.

Prizes and summer studentships

The cost of Research Prize Fellowships is charged in the year awarded.

Expenditure

The costs of raising funds include those fees payable to the Institute's investment fund managers for the management of the Institute's investment portfolio. These are accounted for on an accruals basis.

Charitable activities comprise all expenditure directly relating to the objects of the charity and are accounted for on an accruals basis. The allocation of expenditure between governance and management, administration and support costs is reviewed on an annual basis to ensure the allocation is appropriate. Indirect costs are generally treated as falling into the latter category with the exception of a proportion of salary and related costs, which have been classified as governance costs.

In addition to auditor's remuneration, governance costs comprise the proportion of staff costs associated with the time spent on the preparation of the statutory accounts and other governance issues, together with honoraria remuneration provided to members of the Institute's Scientific Advisory Committee for their duties in selecting the Prize Fellows.

Supplementary pensions and staff pensions

An estimate of the full provision is made in the Financial Statements for the costs of future supplementary payments. The provision and charge to income are reviewed annually by the Trustees in the knowledge that the number of persons receiving the supplementary pensions will not increase. The pension costs are assessed in accordance with actuarial advice and these costs are accounted for in accordance with FRS102 SORP.

Existing employees participate in a defined contribution scheme, the costs of which are expensed as incurred. These disclosures are made in accordance with FRS102 SORP.

Tangible fixed assets

Any capital items purchased under £1k in value are expensed in the accounts in full as incurred. The Charity has no tangible fixed assets.

Investments

Investments are shown at market value in the balance sheet. Changes in the market value are included in the Statement of Financial Activities as realised and unrealised investment gains or losses in the year in which they arise. Investments denominated in foreign currencies are valued at year-end rates of exchange.

Cash flow statement

The Charity has included a cash flow statement in accordance with FRS102 SORP.

Taxation

The organisation is a registered charity and has obtained exemptions from taxation under Part 11, Chapter 3 of the Corporation Tax Act 2010. This exemption will remain as long as income is compatible with that section and expenditure is applied to charitable purposes only.

Critical accounting estimates and areas of judgement

In preparing financial statements it is necessary to make certain judgements, estimates and assumptions that affect the amounts recognised in the financial statements. The Trustees consider the estimates involved in the valuation of investments to have most significant effect on amounts recognised in the financial statements. These are taken directly from Investment Managers' reports.

In addition, the company 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 on corporate bonds. Management estimates these factors in determining the net pension obligation in the balance sheet. The assumptions reflect historical experience and current trends. See Note 13 for the disclosures relating to the defined benefit pension scheme.

Going concern

The Trustees have assessed whether the use of the going concern basis is appropriate and have considered possible events or conditions that might cast significant doubt on the ability of the charity to continue as a going concern. The Trustees have made this assessment for a period of at least one year from the date of approval of the financial statements. In making this assessment the Trustees have considered the impact of the ongoing Covid 19 pandemic and are satisfied

1 PRINCIPAL ACCOUNTING POLICIES continued

that the substantial reserves and liquid assets held by the Lister Institute justify their belief that there are no material uncertainties that cast significant doubt on the charity's ability to continue as a going concern. The charity therefore continues to adopt the going concern basis in preparing its financial statements.

Financial instruments

The company has elected to apply the provisions of Section 11 'Basic Financial Instruments' and Section 12 'Other Financial Instruments Issues' of FRS 102 to all of its financial instruments. Financial instruments are recognised in the company's balance sheet when the company becomes party to the contractual provisions of the instrument. Financial assets and liabilities are offset, with the net amounts presented in the financial statements, when there is a legally enforceable right to set off the recognised amounts and there is an intention to settle on a net basis or to realise the asset and settle the liability simultaneously.

With the exceptions of prepayments and deferred income all other debtor and creditor balances are considered to be basic financial instruments under FRS 102. See notes 10 and 12 for the debtor and creditor notes.

Fund accounting

Unrestricted funds are available for use at the discretion of the Trustees in furtherance of the general objectives of the Institute. Restricted funds are funds available subject to specific restrictions imposed by donors.

2 INVESTMENT INCOME

	2021	2020
	£'000	£'000
Income from fixed asset investments	**612**	579
Bank interest receivable	**0**	1
	612	580

3 OTHER INCOME

	2021	2020
	£'000	£'000
Royalty income CRT Ltd	**0**	13
Total other income	**0**	13

Royalty income earned from Cancer Research Technology as a result of Revenue sharing related to Glover research studies – no more payments expected after 2020.

4 INVESTMENT MANAGEMENT COSTS

	2021	2020
	£'000	£'000
Partners Capital LLP	**168**	146
Cazenove Capital Management	**95**	91
Total investment management fees	**263**	237

Investment management fees referred to here are those accrued fees relating to the management of the Institute's investment portfolios in 2021.

5 GOVERNING BODY AND STAFF COSTS

Emoluments of members of the Governing Body

One member of the Governing Body received an emolument of £2,000 in respect of services to the Institute during the year (2020: nil). Travel expenses of £703 were paid relating to the claims of five member in connection with their attendance at meetings (2020: £411 one member).

Members of the Scientific Advisory Committee (the chair of which is also a member of the Governing Body) are offered remuneration in relation to their services to the committee. An honorarium of £2,000 (2020: £2,000) was paid to the employing institution of the chair of the SAC, the other SAC members (none of whom are members of the Governing Body) were paid £1,000 (2020: £1,000). The majority of members asked for the honorarium to be paid to their employing institution.

Employee information

The average number of persons employed by the Institute during the year was 3, (2020: 4) two of whom are part-time (2020: 3). All staff were employed in an administrative and support capacity. No employees earn over £60,000 p.a. (2020: none). Key management personnel include the Trustees and the Director. The total employee benefits of the charity's key management personnel were £41,608 (2020: £40,228).

Staff costs	**2021**	2020
	£'000	£'000
Gross salaries	**88**	99
Pension contributions	**3**	4
Employer's national insurance	**5**	6
	96	109

The salary costs are allocated under governance where related to statutory accounts preparation, the balance being reported within charitable activities.

6 PRIZES & SUMMER STUDENTSHIPS

	2021	2020
	£'000	£'000
Prize awards	**1,437**	970
Summer studentship payments	**97**	22
Support costs (see note 7)	**64**	37
Salaries (see note 5)	**84**	96
Governance costs (see note 8)	**29**	27
	1,711	1,152

7 SUPPORT COSTS

	2021	2020
	£'000	£'000
Office expenses	**17**	12
Travel expenses	**0**	1
Professional fees	**4**	9
Honoraria and events	**39**	11
Pension costs (see note 13)	**4**	4
	64	37

These costs are all considered to be costs to support resources expended on charitable activities.

8 GOVERNANCE COSTS

	2021	2020
	£'000	£'000
Auditor's remuneration - current year	**14**	11
Staff costs (see Note 5)	**12**	14
Honoraria and events	**3**	2
	29	27

No non-audit services were provided by the auditors during the year (2020: none).
Auditors remuneration includes irrecoverable VAT.

9 INVESTMENTS

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

	2021	2020
	£'000	£'000
Market value at beginning of year	**44,858**	43,226
Purchases during the year at cost	**14,042**	12,790
Proceeds of sales during the year	**(16,474)**	(13,572)
Reinvested income for the year	**593**	474
Movement in un-invested cash	**2163**	658
Cash withdrawn	**(1,850)**	(1,000)
Net change in market value	**4,265**	2,282
Market value at year-end	**47,597**	44,858

The portfolio's asset allocation was as follows

UK investments		
Equities	**2,244**	3,265
Fixed interest	**2,223**	3,591
Other (including private equity, property, commodities, alternatives and inflation linked bonds)	**6,163**	5,599
Cash	**6,311**	5,207
Total UK investments	**16,049**	17,662
Non-UK investments		
Equities	**25,386**	22,652
Other (including private equity, property, commodities and alternatives)	**535**	
	5,627	4,544
Cash	**0**	0
Total Non-UK investments	**31,549**	27,196
Total	**47,597**	44,858

At 31 December 2021 no single shareholding exceeded 5% of the total value of investments (2020: none).
Historical cost related to the closing position of 2021 was £35.74M (2020: £35.52M).

The Institute's investments held by one custodian are charged as security for the Institute's ongoing financial obligations to that custodian for banking services related to those investments.

10 DEBTORS

	2021	2020
	£'000	£'000
Prepayments	**5**	13
Accrued income	**0**	13
Total	**5**	26

11 CASH

	2021	2020
	£'000	£'000
Cash at bank	**283**	132

12 CREDITORS: AMOUNTS FALLING DUE WITHIN ONE YEAR

	2021	2020
	£'000	£'000
Taxation and social security	**3**	4
Accruals	**70**	84
Total creditors falling due within one year	**73**	88

13 PROVISION FOR LIABILITIES AND CHARGES

This represents a provision for future supplementary pension payments in respect of ex-employees, based on their salary and length of service. The pensions are unfunded, with payments made out of the Institute's funds as they fall due.

Movements in the pension provision during the year were as below

	2021	2020
	£'000	£'000
Liability at beginning of period	**134**	143
Plus interest cost	**4**	4
Plus actuarial gains and losses	**19**	13
Benefits paid	**(23)**	(26)
Liability at end of period	**134**	134

The tables below state the FRS102 actuarial assumptions used to estimate the pension provision.

Principal actuarial assumptions Valuation at 31 December 2020

	2021	2020
Rate of increase to pensions in payment	**5.0%**	3.0%
Rate used to discount scheme liabilities	**2.5%**	2.5%

The post-retirement mortality assumption uses the PCA00 base tables (year of birth) with improvements equal to medium cohort with a 1% minimum.

NOTES TO THE FINANCIAL STATEMENTS
(CONTINUED)

14 RELATED PARTY TRANSACTIONS

There were no related party transactions in the year, other than those outlined in note 5 (2020: none).

15 MEMBERS' LIABILITY

The liability of the Members of the institute is limited to 50p. At the date of the financial statements, there were 226 members, each with a guarantee potential of 50p.

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Page 10: From left to right: Sally Burtles, Professor Rickie Patani, Dr James Lee, Dr Tomás Ryan Former Fellow, John Iredale, Alex Markham, Dr Tanmay Bharat, Dr Stineke Van Houte, Dr Stephan Uphoff Former Fellow, Professor Ravindra Gupta.
Page 14: Members of the Governing Body and Lister staff.
Back cover: The science behind it is described in Jones & Uphoff Single-molecule imaging of LexA degradation in Escherichia coli elucidates regulatory mechanisms and heterogeneity of the SOS response. Nature Microbiology 6, 981–990, 2021.

LEGAL AND ADMINISTRATIVE INFORMATION
for the year ended 31 December 2021

Business Address
PO Box 2502
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WD18 1AE

Solicitors
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London EC4A 1LT

Bankers
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St Martins Office
440 Strand
London WC2R 0QS

Auditor
Moore Kingston Smith LLP
Devonshire House
60 Goswell Road
London EC1M 7AD

Registered Office
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10 Norwich Street
London EC4A 1BD

Investment Advisors
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1 London Wall Place
London EC2Y 5AU

Partners Capital LLP
5 Young Street
London W8 5EH

Website: www.lister-institute.org.uk
Telephone: 0203 532 5345

THE GOVERNING BODY

Professor Sir Alex Markham, DSc, FRCP, FRCPath, FMedSci, *Chairman*
Mr Murray Legg, BSc, FCA, *Hon Treasurer*
Professor Judith Armitage, BSc, PhD, FRS
Professor Wendy Bickmore, CBE, BA, PhD, FMedSci, FRS, FRSE
Professor Sir Adrian P Bird, CBE, FRS, FRSE
Professor Rebecca Fitzgerald, MD, FRCP, FMedSci
Hon Rory M B Guinness, BA, FCIM
Professor Douglas Higgs, MBBS, MRCPath, DSc, FRCP, FRCPath, FRS
Mr Andrew Hutton, MA, CFA
Professor John Iredale, FRCP, FMedSci, FRSE
Professor Sir Alec J Jeffreys, CH, DPhil, FMedSci, FRS
Mr Stephen McMahon, MA (Oxon), FCA, FCSI
Mr Matthew Pintus, BA
Professor Dame Pamela Shaw, DBE, FRCP, FMedSci

THE SCIENTIFIC ADVISORY COMMITTEE

Professor John Iredale, BM (Hons), FMedSci, FCRP, FRSE, MA
Professor Judi Allen, MPH, PhD, FRSE, FRSB, FMedSci
Professor Julian Blow, PhD, FRSE, FMedSci, FMedSci
Professor Cyrus Cooper, OBE, MA, DM, FRCP, FFPH, FMedSci *(Retired 10th September 2021)*
Professor Thomas J Evans, MA, PhD, MBBChir, FRCP *(Appointed 10th September 2021)*
Professor Muzlifah Haniffa, FMedSci *(Appointed 10th September 2021)*
Professor Aroon Hingorani, MA, PhD, FRCP
Professor Kikkeri K Naresh, MBBS, MD, DCP, FRCPath
Professor Iain B McInnes, CBE PhD FRCP FRSE FMedSci, *(Appointed 10th September 2021)*
Professor Catherine Nobes, BSc, PhD
Professor Sir Mike Owen, BSc, MB ChB, PhD, FRCPsych, FMedSci, FLSW
Professor Elizabeth Patton, BSc, PhD, FRSE
Professor Barry V L Potter, MA, DPhil, DSc, CSci, FRSC, FMedSci
Professor Fiona Powrie, FRS FMedSci *(Retired 10th September 2021)*
Professor Christoph M Tang, MBChB, PhD, FMedSci
Professor Magdalena Zernicka-Goetz, MSc, PhD *(Retired 10th September 2021)*

THE FINANCE AND INVESTMENT COMMITTEE

Mr Murray Legg, BSc, FCA, Hon Treasurer
Professor Judith Armitage, BSc, PhD, FRS
Hon Rory M B Guinness, BA, FCIM
Mr Andrew Hutton, MA, CFA
Professor Sir Alex Markham, DSc, FRCP, FRCPath, FMedSci
Mr Stephen McMahon, MA (Oxon), FCA, FCSI
Mr Matthew Pintus, BA

SENIOR MANAGEMENT

Director and Secretary: Dr Sally Burtles, BSc, PhD

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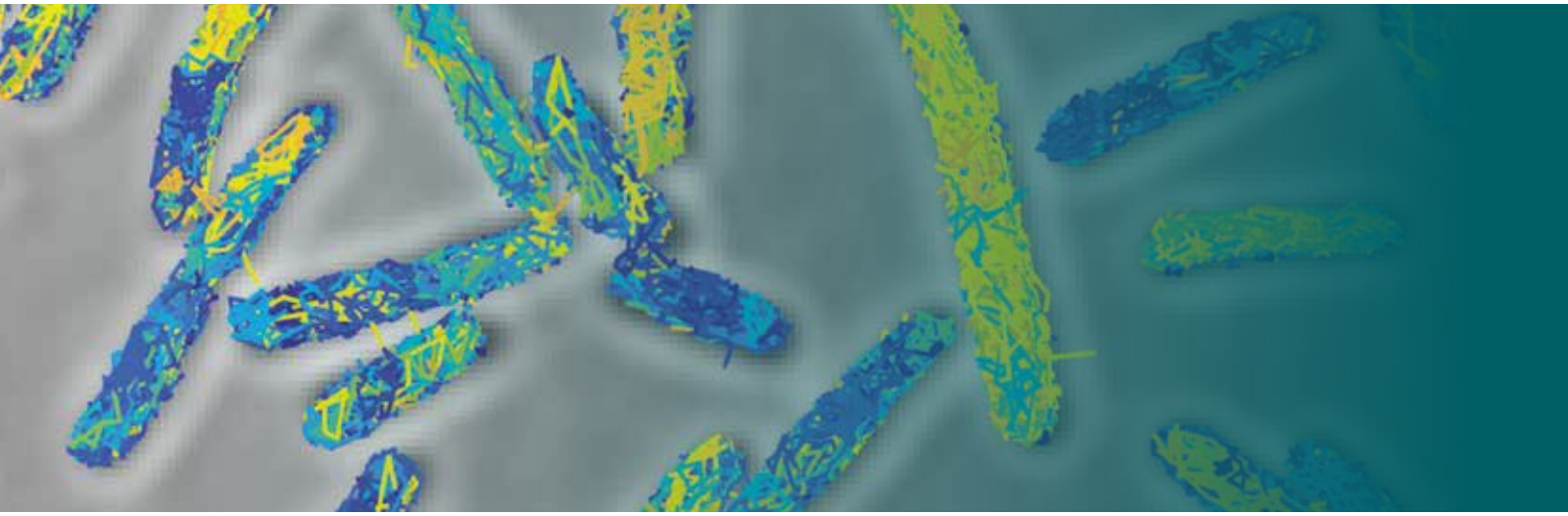
and is a registered charity (206271)



The Lister Institute
of Preventive Medicine

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