



John Innes Centre

Unlocking Nature's Diversity

2021 / 2022

ANNUAL REPORT

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Message from the Director: Professor Graham Moore

I am delighted to take on the Directorship of the John Innes Centre at such an exciting time as we develop our plans for our next strategic funding cycle, commence new strategic research programmes and progress our vision for Healthy Plants, Healthy People, Healthy Planet.

The John Innes Centre is well known for its unique interdisciplinary approach, and I look forward to working closely with colleagues to continue to build on our strength in fundamental science as well as applying our knowledge to global challenges such as food security, climate change, and health and well-being.

2021/22 continued to be a challenging period as we faced further disruption from the pandemic, but our return to working in person over the year has been a personal highlight of the year, particularly catching up with colleagues face to face at our Annual Scientific Meeting.

Despite the pandemic, we have continued to make important discoveries and our 2021/22 Annual Report is testament to our committed staff and students. Here we showcase the discoveries, partnerships

and successes of the organisation, our staff and students from the period.

We have taken important steps to strengthen relationships with partners, including launching a new collaboration with the International Maize and Wheat Improvement Center (CIMMYT).

Our infrastructure plans include the development of a new home for plant and microbial science on the Norwich Research Park. We continue to make good progress and are working with The Sainsbury Laboratory and BBSRC to secure funding for these new facilities.

Our researchers have had real impact, particularly with policy informing and shaping Defra's plans for the future regulation of precision bred (gene edited) crops in England.



Professor Graham Moore
Director of the John Innes Centre

Message from the retired Director: Professor Dale Sanders

I would like to take this opportunity to thank everyone for their contributions to making the John Innes Centre the amazing place it is.

I retire after more than a decade as Director of the John Innes Centre, and my experience since I started in 2010 has been universally positive. It has been a pleasure to work in such a collegial environment, surrounded

by the scientific excellence that makes research such fun.

I wish Graham every success in taking up the post of Director and leading the organisation through the next phase of its journey. He is not only a scientific leader in his field nationally and internationally but also a tremendously collaborative colleague who is hugely valued across the John Innes Centre.



Professor Dale Sanders FRS
Retired Director of the John Innes Centre

About the John Innes Centre

The John Innes Centre is a world-leading international centre of excellence in plant science and microbiology.

Our mission is to generate knowledge of plants and microbes through fundamental research and to use this knowledge to benefit agriculture, the environment, human health and well-being. We train excellent scientists for the future and engage with policy makers and the public. Our joint strategy with The Sainsbury Laboratory, Healthy Plants, Healthy People, Healthy Planet (HP³) outlines our vision for delivering a safer, healthier and more sustainable future through the power of plant and microbial science.



We are home to over
40 RESEARCH GROUPS
working on a variety
of plant and microbial
science research projects.

In collaboration with our
**WORLD-LEADING
ACADEMIC PARTNERS**

we are uniquely positioned to lead the
fundamental scientific advances needed to address
three intertwined, era-defining challenges:



**FEEDING
THE
WORLD**



**GLOBAL
HEALTH
THREATS**



**CLIMATE
CHANGE**



We are a diverse organisation with an **INTERNATIONAL WORKFORCE**

We have over 350 staff. 58% from the UK, 16% from the EU27 and 26% from the rest of the world. Our staff come from 36 countries around the world.



We provide world-class **POSTGRADUATE EDUCATION** in plant science and microbiology as part of our mission to train the scientific leaders of the future. At any one time, we are training around 100 PhD students.

We are proud to have been the **FIRST INDEPENDENT INSTITUTION**

to be awarded the Athena SWAN Gold Award in 2017, in recognition of our work to address equality in science.

We were a founding signatory of the **TECHNICIAN COMMITMENT**

and are committed to embedding a culture where all staff across the organisation are supported and developed.

Research and Innovation

#1

The John Innes Centre ranked as the top plant science research organisation worldwide, based on citations between 2008 and 2017.

When assessed by a panel of independent experts, our strategic programmes achieved the highest ranking in BBSRC's Institute Assessment Exercise in 2016, and the mid-term review in 2019.

Since 2014, we've spun out seven companies and attracted four businesses to Norwich.

Funding and Impact

In 2021/22, the John Innes Centre had a total **INCOME OF £52.9 MILLION** and our total expenditure was **£47 MILLION**.

Our expenditure on our charitable activities was **£45.8 MILLION, or 97%**, of our total spend. This includes research, research infrastructure, and research support.

FOR EVERY £1 invested in the John Innes Centre, **£14 IS GENERATED** for the wider **UK ECONOMY**.

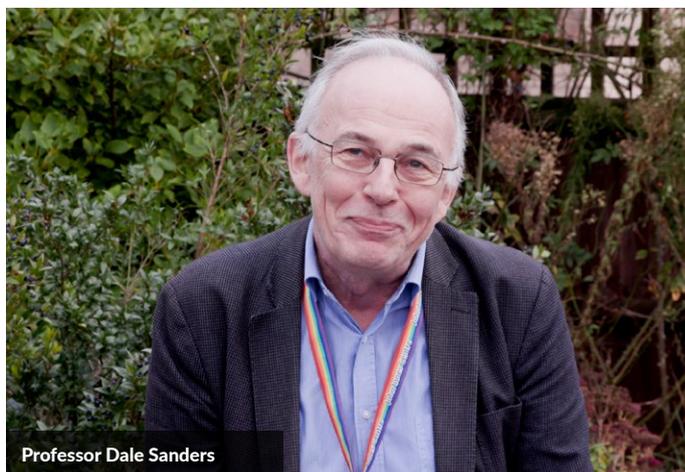
Celebrating our achievements under Professor Dale Sanders' leadership

In September 2022, after 12 years leading the institute, Professor Dale Sanders FRS retired from his role as Director.

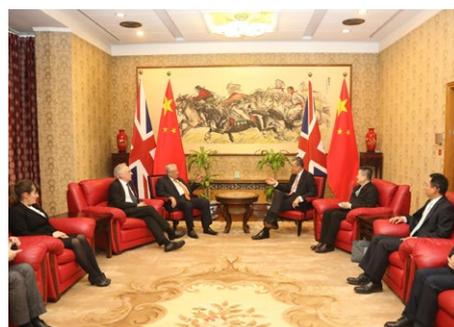
Under his leadership, the John Innes Centre has achieved many scientific and organisational successes, and Professor Sanders has had a lasting positive impact on the organisation, our outward collaborations, and the wider plant science community.

Reflecting on the past 12 years, Professor Graham Moore said, "I would like to warmly thank Dale for his success over the last 12 years in making the John Innes Centre such a wonderful place to work and supporting the delivery of world-class research. We all wish him a very well-deserved, long and happy retirement."

Here, we look back at some of Professor Sanders' organisational achievements since his appointment in 2010.



Professor Dale Sanders



International Collaborations

Professor Sanders was instrumental in driving forward our international collaborations. Throughout his time here at the John Innes Centre, Professor Sanders was at the forefront of CEPAMS, a major collaborative UK-China project.

In 2018, Professor Sanders supported the formation of a Trilateral alliance in Europe with two leading plant science institutes, which aims to build European networks for early career researchers.

This alliance brings PhD students and post-docs together to discuss science and facilitate their next career steps.

Infrastructure and Vision

In 2019, the John Innes Centre opened the Dorothea de Winton Field station, set in the 110 hectares of Church Farm, Bawburgh. This infrastructure development marked an important point in the development of the institute taking our research from the lab into the field, providing an environment where plant and microbial research provides solutions to global challenges.

To support this ambition, in 2020 the John Innes Centre and The Sainsbury Laboratory launched Healthy Plants, Healthy People, Healthy Planet, a joint vision to secure a safer, healthier and more sustainable future through the power of plant and microbial science.



The Dorothea De Winton field station at Church Farm

People and Culture

During Professor Sanders' tenure, the John Innes Centre became the first independent institution to be awarded an Athena SWAN Gold Award and became a founding signatory of the Technician Commitment, which aims to ensure visibility,

recognition, career development and sustainability for technicians working in higher education and research.

PROUD SUPPORTER OF THE
Technician Commitment



Delivering the BBSRC Institute Strategy

In July 2021, BBSRC launched a new Institute Strategy, setting out its approach to supporting and working in partnership with the institutes it strategically funds.



The strategy outlines three themes which underpin the principles of its strategic investment:

- Capability
- Connectivity
- Culture

To support this, the John Innes Centre established a programme of new activities structured around these three themes to help deliver the strategy.



Connectivity

We funded nine projects to: (i) strengthen our national and international connectivity via joint strategic research activities, collaborative meetings and staff exchanges; (ii) assess and document this connectivity to provide an evidence base for future collaborations; and (iii) engage our networks to boost connectivity.



Culture

We funded four projects to support inclusivity and diversity initiatives at the JIC, encourage activity and engagement in on-site sustainability issues and promote engagement with the local community. Over 2022/23, we will develop plans to deliver the BBSRC Institute Strategy, as part of the 2023 Institute Assessment Exercise.



Capability

We funded eight projects to strengthen our capabilities, by pump-priming new areas of research supporting our future research strategy and strengthening key areas of JIC scientific capability in cutting-edge technologies and ground-breaking areas of science, to support our position of a National Capability.

Science Highlights

How plants become good neighbours in times of stress

Shade is detected by phytochrome photoreceptors, and causes plants to grow long and tall to outgrow the competition. In the deep gloom of a dense forest or a cramped crop canopy, this strategy doesn't work. It has been discovered that plants that are adapted to grow in deep shade conditions can modify their internal clocks.

The collaborative research from Professor Ant Dodd and the University of Bristol identifies a previously unknown role for the circadian clock in regulating plant development. The findings have implications for both natural plant populations and crops.



+ *'Phytochrome A elevates plant circadian-clock components to suppress shade avoidance in deep-canopy shade'*, PNAS. DOI: [10.1073/pnas.2108176118](https://doi.org/10.1073/pnas.2108176118)



The effect of phytoplasma infection on Arabidopsis

A mechanism used by parasitic bacteria to slow down plant ageing may offer new ways to protect disease-threatened food crops. The discovery shows how the bacterial protein, SAP05, manipulates plants by taking advantage of some of the host's own molecular machinery. When inside a plant, SAP05 causes key growth regulators to be broken down, triggering abnormal growth.

Professor Saskia Hogenhout says: "Phytoplasmas are a spectacular example of how the reach of genes can extend beyond the organisms to impact surrounding environments. Our findings cast new light on a molecular mechanism behind this extended phenotype in a way that could help solve a major problem for food production."

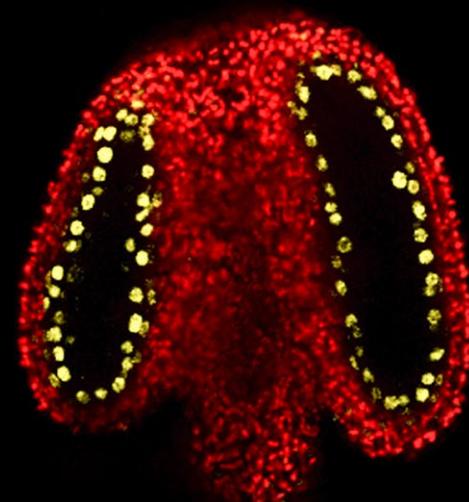
+ *'Parasitic modulation of host development by ubiquitin-independent protein degradation'*, Cell. DOI: [10.1016/j.cell.2021.08.029](https://doi.org/10.1016/j.cell.2021.08.029)

How information beyond the genetic sequence is encoded in the plant sperm

A molecular mechanism of DNA methylation reprogramming which stops mobile genetic elements, transposons, jumping around in the germ cells has been discovered. This reprogramming protects the integrity of the genome between generations, by adjusting DNA modifications. It explains how some methyl markers are reset, affecting the information passed on to the next generation.

"This discovery changes the way we think about epigenetic inheritance across generations in plants by showing that small RNAs produced by germline nurse cells can determine the DNA methylome in the sperm. The key role played by these small RNAs in determining the inherited DNA methylome indicates convergent functional evolution between plant and animal reproduction," says Dr Xiaoqi Feng.

+ *'Nurse cell-derived small RNAs define paternal epigenetic inheritance in Arabidopsis'*, Science. DOI: [10.1126/science.abh0556](https://doi.org/10.1126/science.abh0556)



Tapetal cells produce an abundance of small RNA molecules

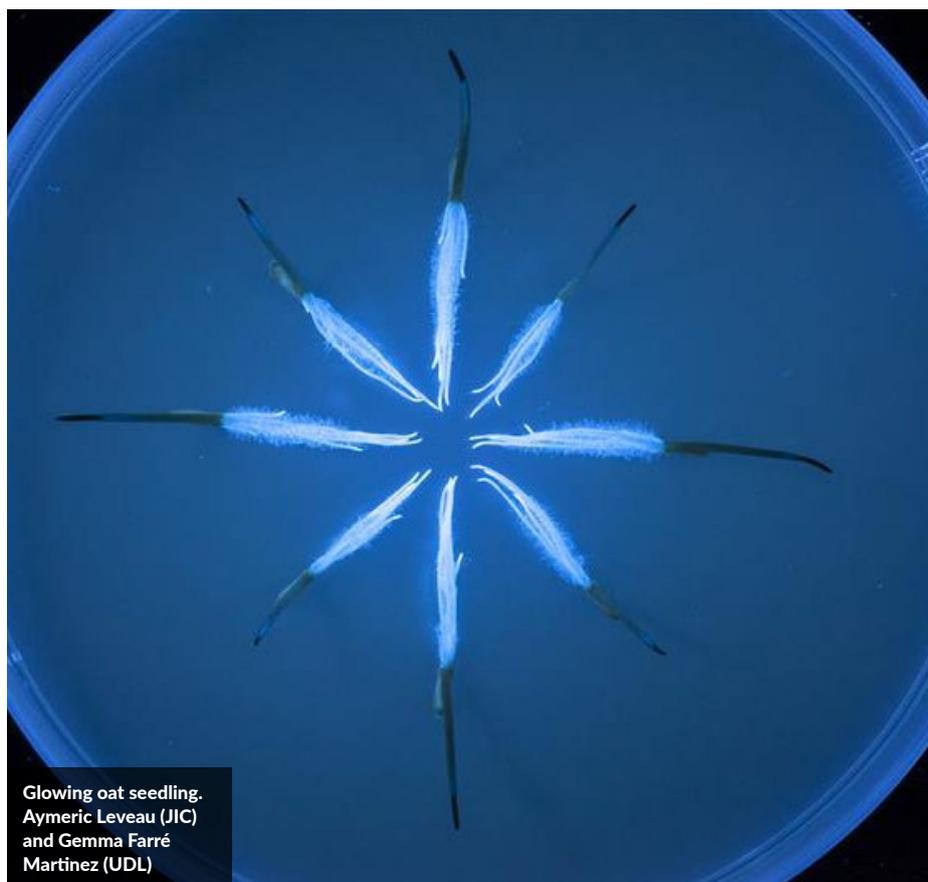
Scientists solve the grass leaf conundrum

Grass is cut regularly by our mowers and grazed on by cows and sheep yet continues to grow back. The secret to this remarkable regenerative power lies in part in the shape of its leaves, but how that shape arises has been a topic of longstanding debate.

In grasses, the base of the leaf forms a tube-like structure, called the sheath. The sheath allows the plant to increase in height while keeping its growing tip close to the ground, protecting it from lawnmowers and herbivores.

The study shows how simple modulations of growth rules, based on a common pattern of gene activities, can generate a remarkable diversity of different leaf shapes, without which our gardens and dining tables would be much poorer.

+ *'Evolution of the grass leaf by primordium extension and petiole-lamina remodelling'*, *Science*. DOI: [10.1126/science.abf9407](https://doi.org/10.1126/science.abf9407)



Glowing oat seedling.
Aymeric Leveau (JIC)
and Gemma Farré
Martinez (UDL)

Winning gene combination takes all

The remaining steps of the biological pathway that gives oats resistance to the deadly crop disease take-all have been uncovered. The discovery creates opportunities for new ways of defending wheat and other cereals against the soil-borne root disease. The research also delivers fresh insights into the mechanisms that shape genome architecture and adaptive evolution in plants.

The research team found that genes are clustered next to each other in the genome like beads on a string and organised along the chromosome approximately in the same order as the biosynthetic pathway – like a recipe written out in order of ingredients.

+ *'Subtelomeric assembly of a multi-gene pathway for antimicrobial defense compounds in cereals'*, *Nature Communications*. DOI: [10.1038/s41467-021-22920-8](https://doi.org/10.1038/s41467-021-22920-8)

How plants flower at different times in different climates

Researchers have uncovered the genetic basis for variations in the vernalization response shown by plants growing in very different climates, linking epigenetic mechanisms with evolutionary change.

Vernalization is a period of prolonged cold that some plants require before they will flower to ensure that they only produce flowers after winter has passed. When sufficient time in the cold has passed, an epigenetic switch silences a flowering-repressor gene called FLC. These epigenetic changes are then passed on to daughter cells during the rest of the plant's developmental cycle. The research team discovered how different plants set the level at which this epigenetic switch is triggered.

+ *'Quantitative Modulation of Polycomb Silencing Underlies Natural Variation in Vernalization'*, *Science*. DOI: [10.1126/science.1221881](https://doi.org/10.1126/science.1221881)



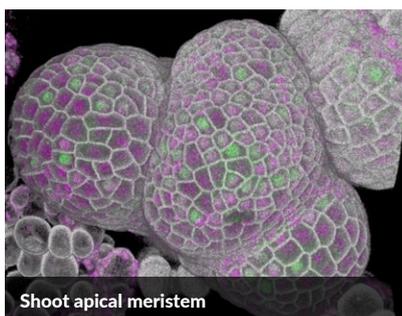
An arabidopsis
plant in winter

How cells measure themselves

Ever since scientists discovered cells under the microscope more than 350 years ago, they have noted that each type of cell has a characteristic size. From tiny bacteria to inches-long neurons, size matters for how cells work. The question of how these building blocks of life regulate their own size, however, has remained a mystery.

Now we have an explanation for this long-standing biological question, as research has shown that the cells in the growing tips of plants use their DNA content as an internal gauge to assess and adjust their size.

Professor Robert Sablowski said: "It has been suggested for a long time that DNA could be used as a scale for cell size, but it was unclear how cells could read the scale and use the information. The key is to use the DNA as a template to accumulate the right amount of a protein, which then needs to be diluted before the cell divides. It's exciting to come across such a simple solution to a long-standing problem."



Shoot apical meristem

+ 'Cell size controlled in plants using DNA content as an internal scale', *Science*. DOI: 10.1126/science.abb4348

How legumes give oxygen to symbiotic bacteria in their roots

The genetics inside legumes that control the production of an oxygen-carrying molecule, crucial to the plant's close relationships with nitrogen-fixing bacteria, has been discovered. The finding offers the potential to give other plants the ability to produce ammonia from bacteria – reducing the need for the fossil fuel-dependent and polluting practice of applying synthetic fertiliser to crops.

The research team identified two transcription factors that control how much leghemoglobin is made in legume nodules. Dr Jeremy Murray, CEPAMS Group Leader, Shanghai said: "This gives a key insight into how legume plants create the microaerobic environment needed for nitrogen-fixation. This knowledge could be useful for improving nitrogen-fixation in legumes and would be essential for transfer of nodulation to non-legume crops."

+ 'NIN-like protein transcription factors regulate leghemoglobin genes in legume nodules', *Science*. DOI: 10.1126/science.abg5945



Root nodules house the bacteria that fix nitrogen from the air in legumes



Wheat in the field

Gene-editing discovery yields high promise for wheat fertility in a changing climate

A gene with profound effects on the production of seeds has been identified, ZIP4 is responsible for maintaining 50 per cent of yield in wheat. The researchers used recent developments in wheat research technology to explain the genetic element that has puzzled scientists for more than 60 years. Professor Graham Moore said: "We can now aim to identify variants of the gene that give resilience to climate change."

+ 'A 'separation-of-function' ZIP4 wheat mutant allows crossover between related chromosomes and is meiotically stable', *Nature Scientific Reports*. DOI: 10.1038/s41598-021-01379-z

How bread wheat got its gluten: Tracing the impact of a long-lost relative on modern bread wheat

An obscure ancestor of modern bread wheat has been discovered by researchers who sequenced the DNA from 242 unique accessions of *Aegilops tauschii*, which was gathered over decades from across its native range – from Turkey to Central Asia.

Population genome analysis found the existence of a distinct lineage of *Aegilops tauschii* restricted to present day Georgia, in the Caucasus region – some 500 kilometres from the Fertile Crescent where wheat was first cultivated – an area stretching across modern-day Iraq, Syria, Lebanon, Palestine, Israel, Jordan, and Egypt.

Dr Kumar Gaurav said: "The discovery of this previously unknown contribution to the bread wheat genome is akin to discovering the introgression of Neanderthal DNA into the out of Africa human genome."

+ 'Population genomic analysis of *Aegilops tauschii* identifies targets for bread wheat improvement', *Nature Biotechnology*. DOI: s41587-021-01058-4. 'High molecular weight glutenin gene diversity in *Aegilops tauschii* demonstrates unique origin of superior wheat quality', *Communications Biology*. DOI: 10.1038/s42003-021-02563-7



On a wild wheat relatives foraging trip. Ali Mehrabi

Awards and honours

Rank Prize for Nutrition awarded to Professor Cathie Martin

Professor Cathie Martin was awarded the prestigious Rank Prize for Nutrition 2022 for her globally significant research in making fruit and vegetables more nutritious.

The award recognises those who have made a significant contribution to human and animal nutrition, where their ideas have been carried through to practical applications of benefit to humankind.

Professor Dale Sanders said: "The awarding of this prestigious prize is wonderful recognition for the enormous impact her work has had in the field of metabolic engineering. From fundamental discovery to innovative ways of improving human diet, Cathie's research contributions have been inspirational."

Professor Martin's research into plant genetics and metabolism uses plant science tools to improve human diet and health with emphasis on biofortification and using plant metabolic engineering to enhance foods nutritionally.



Professor Cathie Martin



Professor Saskia Hogenhout

Saskia Hogenhout elected a fellow of the American Phytopathological Society

In recognition of her pioneering career, for distinguished contributions to plant pathology and for paradigm-shifting research, Professor Saskia Hogenhout was elected fellow of the APS.

Professor Hogenhout focuses on understanding the mechanisms that drive interactions between plants and insects and the role of microbes in these interactions.

In a distinguished career, she has pioneered mechanistic molecular research on phytoplasmas – insect-transmitted bacterial parasites that inhabit the vascular tissues of plants.

Her paradigm-changing discovery of SAP effectors helped shift the focus of research from an emphasis on hormone imbalance to protein effectors.

Research on phytoplasma SAP effectors is now flourishing, with dozens of papers being published on the topic.

Lesley Mitchenall recognised with Lifetime Achievement Award

Research Assistant Lesley Mitchenall was awarded a Lifetime Achievement Award to mark her achievements over many years at the John Innes Centre.

Lesley said she was "truly amazed" to receive the award and commented, "I have been fortunate to work with so many amazing people over the years. I hope this award helps to highlight the contributions that all Research Assistants make to the science at the John Innes Centre and the support they provide to students and post docs."

Professor Dale Sanders said: "This award brings well-deserved recognition for Lesley's highly successful career. Her achievements have been outstanding. Her commitment and approach are fantastic and she is a talented scientist and colleague."



Lesley Mitchenall

Organisational achievements



The John Innes Centre has much to celebrate over the year. We announced new strategic research collaborations, took part in influential policy conversations and received awards and honours recognising our achievements.



New strategic collaboration on wheat research

The John Innes Centre launched a strategic collaboration with the International Maize and Wheat Improvement Center (CIMMYT), to further the global effort to develop the future of wheat. An important goal of the collaboration is to expand the impact of the joint research breakthroughs through knowledge sharing and capacity development. Joint research projects will include developing and deploying new molecular markers for yield, resilience and nutritional traits in wheat, pursuing new approaches that increase breeding efficiency and developing improved technologies for rapid disease diagnostics and surveillance.

■ ■ Joint research projects will include developing new molecular markers for yield, resilience and nutritional traits in wheat, pursuing new approaches that increase breeding efficiency ■ ■

Institute Assessment Exercise 2022

The John Innes Centre completed a URKI-BBSRC exercise to assess the institutes performance, across our strategic, national capability and core grants. The Institute Assessment Exercise, or IAE, takes place every five years to allow BBSRC supported institutes to report progress, and present plans, objectives and aims for the next period. Full results of the exercise are yet to be published, however, we have already received favourable feedback from the panel regarding our performance.



**Biotechnology and
Biological Sciences
Research Council**



Government recognition of our plant science and agri-food expertise

The John Innes Centre and partners across the Norwich Research Park worked with the Local Enterprise Partnership for Norfolk and Suffolk to achieve 'High Potential Opportunity' Zone status from the Department of International Trade. The prestigious Government recognition marks our cutting-edge plant science and agri-food expertise in the region and helps us to showcase the region's globally-renowned plant science expertise in developing nutritious food products.



John Innes Centre research showcased at major climate conference

Our work was well represented at the COP26 Climate summit, via our partnerships and funders. Professor Dale Sanders attended the event in person to represent the Royal Society, after leading a project on the links between agriculture and climate change. Partners such as UKRI-BBSRC and Science and Advice for Scottish Agriculture also screened videos featuring our researchers and their work at the conference.



Technician Commitment Impact Award

The John Innes Centre was awarded the Impact Award from the Technicians Commitment, recognising our work to ensure greater visibility, recognition, career development and sustainability for our technicians (Research and Support Staff). Dr Clare Stevenson, our lead for the Technician Commitment, received the award at the Technician Commitment Signatory meeting.



PROUD SUPPORTER OF THE
Technician Commitment

Our work was well represented at the COP26 Climate Summit, via our partnerships and funders. Professor Dale Sanders attended the event in person to represent the Royal Society, after leading a project on the links between agriculture and climate change

Flexible Talent Mobility Accounts

FTMAs are competitively awarded grants that enable us to support the mobility and training of researchers interested in pursuing careers in, and making links with, industry.

The programme provides an opportunity to learn about a different role, gain new skills, and career-development support without having to step out of their permanent roles.

In the five years leading up to March 2022, we supported thirty-two researchers into UK or International work placements in industry and four tenure track fellows to

strengthen links with industrial partners.

So far, 46% of work placement secondees have secured a permanent role in industry as a direct result of the upskilling and experience gained during their placement.

Most placements comprised a three-month work placement in an external company or business, where staff could gain valuable

experience, from how to use a business model, to setting up a spin-out company, through to how to peer review and edit research papers.

Recently, the grant was opened up to include technicians and support staff, with 14 people supported to undertake professional qualifications and training.

Joe Sallmen

Science into Policy

During a two-month placement with the Innogen Institute (part of the University of Edinburgh), Joe explored the role of large British corporations in European Framework programmes, and he developed a policy brief for the Engineering Biology Leadership Council.

Joe said, "Learning how to write for different audiences and how to condense a lot of nitty-gritty details into

something short and palatable whilst still delivering effective messages to policy makers was invaluable."

On his return to the lab, Joe brings new data management and communications skills, giving him and his groups new ideas of how to present research going forward, including making it more accessible for different audiences.



Sarah Tolland

Coaching

Sarah collaborated with coach and mentor Nikki Wild over a period of two-months and studied for an ILM Level 5 qualification in Coaching and Mentoring. The placement allowed Sarah to be "coached on her own coaching skills" and to explore what the world of a professional coach looked like.

During this placement, Sarah gained new skills that have both strengthened her role as a manager and her outlook on effective coaching. Returning to the office, Sarah was given the opportunity to coach a fellow colleague, which she welcomed as part of her ongoing journey into coaching and mentoring.

Reflecting on the placement, Sarah's said, "My interest in coaching and mentoring others was reaffirmed by the experience, and having the chance to work shadow a professional coach gave me a boost in confidence."



Clare Stevenson

Leadership and Management

After working at the John Innes Centre for 25 years in structural biology and biophysics, and leading for the Technician Commitment for 5 years, Clare was appointed as Head of Directorate in April 2022.

To support her transition into senior management, the programme funded ten 1:1 leadership coaching and mentorship training sessions with expert coach, Steph Allen at The Training Spa.

The sessions focussed on leadership, management and communication to enable to Clare to navigate the move from lab scientist to senior management smoothly.

As part of the placement, Clare had the opportunity to network and visit two Norwich Research Park colleagues in similar roles.

Reflecting on her experience, Clare said, "I was provided with the support needed for my career change, and it also opened my mind to different styles of leadership and alternative viewpoints."



Church Farm

The John Innes Centre's field trials and experimentation site, Church Farm is located on the outskirts of Norwich, in the village of Bawburgh



The Dorothea De Winton building

This state-of-the-art field trial station opened in May 2019, and provides laboratories, facilities and cold storage for our crop trials. The team of field trial specialists support research to improve crops.

Church Farm is where crops that are initially researched under lab and greenhouse conditions are taken into the field to test how they perform. We also provide opportunities for community engagement for the local residents of Bawburgh, showcasing the facility, research and local opportunities.

Genetically Modified and Gene Edited Crop Trials

In February 2022 we hosted an event for local residents to learn more about the field trial of high-iron wheat, which takes place at Church Farm over the next three years.

On the day, Dr Janneke Balk gave a talk about the field trial and the science behind the wheat, and Professor Wendy Harwood showed GM barley seedlings and information about how we do genetic modification. Professor Cristobal Uauy and Dr Penny Hundleby were on hand to answer questions.

There was a really open atmosphere, and everyone was interested to find out more about the John Innes Centre, field trials and the high-iron wheat.



Visitors learn more about genetically-modified crop trials planted at church farm in 2022



An open event to showcase our research and open new permissive paths

Permissive Paths

During the pandemic lockdowns in 2020, we saw a large increase in people walking through the farm, around the margins of the fields and on the farm paths. This year, we have begun a new programme of engagement with residents and path users to ensure safe access to Church Farm.

The first step was to host an afternoon drop-in session, at the end of October 2021. We welcomed around 40 local residents to the event, where we launched a new permissive path, showcased our research, and encouraged informal discussion with the staff, students and scientists who work at the farm.

Informing policy on gene editing

John Innes Centre research has helped inform new legislation governing field trials of gene edited crops.

At the John Innes Centre we use gene editing to understand and develop crops which are more nutritious and resilient to climate change and diseases.

Gene editing provides an opportunity to revolutionise our food systems. However to benefit fully, we have to address the way we regulate this technology.

To inform new legislation in this area we have focused on engagement with key groups, including responding to consultations, attending Defra policy workshops and advisory committees, presenting webinars to Defra staff, hosting visits from key policy makers to the site, including

Defra's Chief Scientific Adviser, the Minister for Agri-innovation and co-hosting a visit from the entire Genetic Resources and GM Team.

In early 2022, Defra published draft regulations which were debated in Parliament. John Innes Centre quotes and research case studies were included in many materials relating to the new legislation in March 2022, including in speeches from Ministers in the Houses of Parliament and accompanying press materials, demonstrating our impact on the debate.

We also provided up-to-date and accurate information including new videos and website content, public engagement events and media

briefings and interviews, to make sure the public had access to accurate information about the technology.

In March 2022, we were delighted to see the new legislation for field trials of gene edited crops approved by Parliament and in 2022 we ran the first field trials of gene edited crops under the new system.



**Department
for Environment
Food & Rural Affairs**



New appointments and Fellowships

Two Researchers awarded BBSRC Discovery Fellowships

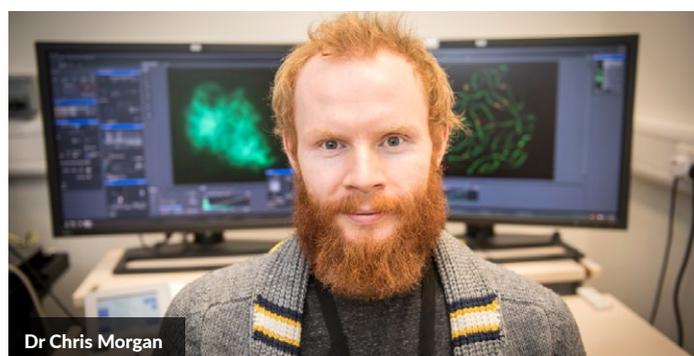
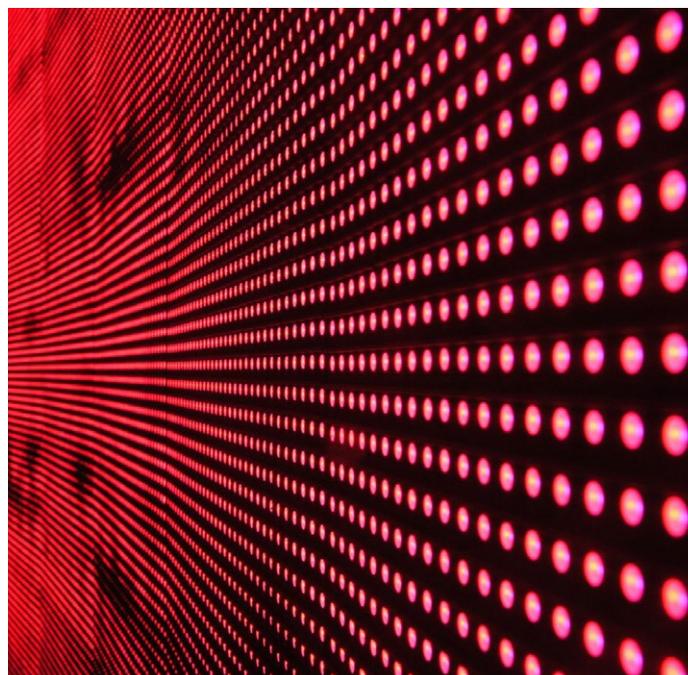
Dr Chris Morgan and Dr Claudio Greco were awarded three-year BBSRC Discovery Fellowships to take forward their innovative work at the John Innes Centre. These prestigious awards are made to early-career post-doctoral researchers who are transitioning towards independence and have demonstrated the potential to become future research leaders.

Dr Morgan's fellowship research, hosted by the lab of Dr Xiaoqi Feng, aims to understand the impact of climate change on plant meiosis.

Dr Greco's fellowship research, hosted by Professor Barrie Wilkinson and Professor Matt Hutchings, will investigate Escovopsis, a fungal pathogen of the nests of leafcutter ants, as a potential source of new antibiotics.

Professor Mark Buttner, the academic lead for the research fellowship programme at the John Innes Centre said, "I'm delighted that the outstanding potential of Chris and Claudio has been recognised by these awards and look forward to their future development with great interest and expectation.

"The fellowship scheme at the John Innes Centre has helped some outstanding scientists who have gone on to exciting and influential research careers."



Dr Chris Morgan



Dr Claudio Greco

The best in AI appointed at Norwich Research Park

Scientists across Norwich Research Park are part of a major integrated UK research-industry programme led by The Alan Turing Institute, seeking out the best talent in AI and data science, developing bioscience leaders and supporting the UK economy.

Data science uses complex machine learning algorithms to build predictive models. With the ever-increasing amount of data being produced from biological research, the projects will help drive forward AI research and innovation in the UK. Developing capability and capacity to bring together industry and academia, the fellowship programme aims for AI practices to be adopted by trades through inter-sector career paths.

The year-long collaborative research projects at the John Innes Centre are:

- Uncovering the cis-regulatory patterns that determine gene expression – James Maas. Investigating plant development by exploiting the vast amount of data at our disposal to uncover patterns in gene regulation that aims to help understand genetic behaviour during flowering time – an adaptive and agronomic trait of major importance for food security.
- In too Deep: Unravelling the links between transcriptome dynamics and phenotypic changes in Brassicas – Bethany Nichols. A major challenge in crop research is to achieve a sufficient understanding of mapping the genotype to phenotype to design crops' behaviour to sync with their environment. This project develops genetic and phenotypic resources in Brassicas through computational approaches to identify genetic regulators that control important developmental transitions.

**The
Alan Turing
Institute**



Dr Michael Webster

Dr Michael Webster

Group Leader

Dr Michael Webster joined the John Innes Centre in January 2022. His research focuses on understanding the molecular machines that express photosynthetic genes. They use cryogenic electron microscopy (cryo-EM) to determine structural models of large protein complexes and develop models of their activity using biochemical and biophysical techniques.

This insight will guide efforts to improve the photosynthetic output of crops and establish methods for the use of plastids as expression platforms for valuable proteins.

The recent advent of high-resolution cryo-EM has transformed our capacity to understand dynamic molecular assemblies, and the group recently employed this technique to structurally characterise the gene expression supramolecular assembly called the expressome.

Dr Philippa Borrill

Group Leader

Dr Philippa Borrill joined the John Innes Centre in October 2021 from the University of Birmingham. Her group will be working to understand the genetics controlling the nutritional value of wheat grain.

Working on wheat is challenging because it has a large genome which has multiple copies of most genes, and we currently don't know whether all of the gene copies are important for the characteristics of the wheat plant.

Therefore, her group will also be working to understand whether these gene copies have similar or different roles, and how they interact at a genetic level.



Dr Philippa Borrill



Dr Dmitry Ghilarov

Dr Dmitry Ghilarov

Group Leader

Dr Dmitry Ghilarov, the recipient of a Wellcome fellowship, joined the John Innes Centre in October 2021 from the Malopolska Institute of Biotechnology.

His group will study biosynthesis and the mode of action of bacterial antibiotics (bacteriocins) at the molecular level, to discover, design and develop better antimicrobials. Bacteria compete with each other for access to resources, and this competition is regulated by bacteriocins. Therefore, we can harness them to regulate plant or human microbiomes in a precise way to restrict pathogens and promote growth of beneficial bacteria.

He uses structural biology methods, mostly cryo-electron microscopy, to study how peptide antibiotics are synthesised, transported and how they interact with their targets.

Future Plans

The next 12 months will be an important period for the John Innes Centre as we prepare and plan a range of new initiatives to drive forward our strategy

NEW LEADERSHIP TEAM

Professor Dale Sanders, Director of the John Innes Centre, retired in 2022 after over a decade leading the organisation. The John Innes Centre's Governing Council carried out an extensive international search for a new Director to lead the organisation's ambitious future strategy. World-leading wheat researcher and Deputy Director of the John Innes Centre, Professor Graham Moore, took on the role of Director from September 2022. Over the year we will also recruit a Chief Operating Officer to work closely with the Director to ensuring the operational effectiveness of the institute and to support delivery of JIC's scientific vision. Our new senior leadership team will take on their roles at an exciting point in the John Innes Centre's development as we commence new Institute Strategic Programmes and progress our vision for Healthy Plants, Healthy People, Healthy Planet.

DEVELOPING PLANS AND SUBMITTING THE IAE

We developed detailed plans for our research over the next five years as part of BBSRC's Institute Assessment Exercise (IAE) – a process run every five years to assess the quality of the research and ideas at the institutes it strategically funds. Our application included a statement on the vision and strategic direction of the institute, alongside detailed plans for the strategically funded research in our four Institute Strategic Programmes (ISPs) alongside descriptions of our core capability from our platforms and support services, our collaborative and inclusive culture and plans for institute development, to enable us to address the key principles of the BBSRC Institute Strategy.

PREPARING A BUSINESS CASE FOR MAJOR INFRASTRUCTURE INVESTMENT

We are working with The Sainsbury Laboratory and BBSRC to secure funding for new research facilities to provide a world-class research environment. This will support delivery of our ambitious plans to create a world-leading hub for plant and microbial science on the Norwich Research Park. We prepared an outline business case to HM Government later this year to make the case for Government capital investment. Alongside this we are bringing in private sector funding through a capital fundraising programme towards the costs. If we're successful in our application and we will progress design work for the first stage of the development – which includes the Horticulture and glasshouse areas, our insectary and Germplasm Resources Unit in 2023.

A NEW INCLUSIVITY AND DIVERSITY STRATEGY

We will continue to embed a working environment that promotes excellence, inclusivity, and wellbeing and plan to work with staff and students across the John Innes Centre to refresh our Inclusivity & Diversity Strategy and associated Action Plan. The overall guiding principle for the strategy will be to create an environment where everyone is encouraged, supported, welcomed and has an equal chance to excel.

Trustees' Report including the Strategic Report

The Board of Trustees of the John Innes Centre (Governing Council) presents its Annual Report and Financial Statements for the year ended 31 March 2022. The Annual Report provides details of the John Innes Centre's objectives, achievements, scientific and financial performance in the year, future plans, risk management and its governance and management structure.

About us

The John Innes Centre (JIC) is a world-leading international centre of excellence in plant science and microbiology. Our mission is to generate knowledge of plants and microbes through fundamental research. We use this knowledge to benefit agriculture, the environment, human health and well-being, to train excellent scientists for the future and to engage with policy makers and the public. Find out more about the JIC on pages 4 and 5.

Our strategy

Healthy Plants, Healthy People, Healthy Planet (HP³) is our strategy for achieving a safer, healthier and more sustainable future through the power of plant and microbial science.

In collaboration with world-leading academic partners we are uniquely positioned to lead the fundamental scientific advances needed to address three intertwined, era-defining challenges: feeding the world; combating global health threats and climate change.

Delivery

To date the knowledge generated by the John Innes Centre has resulted in many innovative and practical solutions to global challenges. This is the result of ground-breaking research, combined with collaboration to develop specific and applied scientific solutions. We have addressed societal problems and aided economic development in the UK and globally.

The task of the Governing Council is to ensure that the John Innes Centre retains its position as the key national and international centre of scientific excellence in plant and microbial science.

A selection of our science highlights are shown on pages 8, 9 and 10, and our recent organisational achievements can be found on pages 12 and 13.



Sir Thomas Hughes-Hallett
Chair of the John Innes Centre's
Governing Council



Charitable Objective

The charity's objective is the advancement of education in agriculture, horticulture and biotechnology world-wide by undertaking research and disseminating the results of such research, and training research scientists

Financial Review

Key Performance Indicators

JIC's key performance indicators are:

- submission levels and success rates for research grant proposals;
- publications in relevant scientific journals;
- recruitment and retention of high quality staff and students;
- annual research income vs. budget; and
- unrestricted reserves vs. budget.

Details of publications and recruitment in the year are provided in the Achievements and Highlights section.

Details of grant submissions, success rates, research income and reserves are provided in the Financial Review.

Going Concern

The financial statements have been prepared on a going concern basis which the Trustees consider to be appropriate for the following reasons:

The Trustees have prepared cash flow forecasts for the period to March 2028 which indicate that, taking account of reasonable possible downsides and the potential impact of inflation and COVID-19 on the operations and its financial resources, the Institute will have sufficient funds to meet its liabilities as they fall due for that period.

The Institute is reliant on its strategic programme funding from BBSRC, which was £13.2m in the year (2021: £16.8m). BBSRC has confirmed continued strategic funding of £13.2m for the year to March 2023. BBSRC has provided the Institute with a provisional strategic programme funding allocation for 5 years to March 2028 of £14.6m per annum. The funding is expected to be confirmed in late 2022, once BBSRC has received confirmation of its Spending Review Allocation.

Like most research organisations, the Institute's activities have been impacted by Covid-19 measures over the last 2 years. During this period, the Institute has been able to successfully maintain its research programmes and projects with minimal financial impact. The Institute has considered the potential financial impact of any restrictions for the next 12 months, including the potential for a further lockdown. Taking into account experience to date, business continuity arrangements and financial projections, the Institute considers the risk of a significant financial impact from Covid-19 to be low.

The Institute has prepared income, reserves and cash flow forecasts to March 2028. The forecasts indicate that the Institute will have significant cash headroom over the period, with cash balances of at least £30m for the 12 months from the signing date of this Annual Report.

Consequently, the Trustees are confident that the Institute will have sufficient funds to continue to meet its liabilities as they fall due for at least 12 months from the date of approval of the financial statements and therefore have been prepared on a going concern basis.

Income

Total incoming resources for the year were £52.9m (2021: £50.3m). The increase in the year was due to additional BBSRC strategic and capital grant funding. Income excluding capital funds was £39.5m (£40.7m).

An analysis of grant income by principal sponsor is included in the notes to the financial statements. JIC's principal sponsor is the Biotechnology and Biological Sciences Research Council (BBSRC), which contributed 73% of total incoming resources (2021: 76%). Other major sources of funding were the European Union and charitable organisations.

Expenditure

Recurrent expenditure for the year amounted to £47.0m (2021: £46.1m). Staff costs accounted for £17.1m (36%) (2021: £16.8m; 36%) of expenditure.

Fundraising

JIC does not carry out any significant public fundraising activities.

Net Movement in Reserves

JIC recorded a net decrease in unrestricted reserves of £1.7m (2021: increase of £1.8m). Restricted reserves increased by £18.6m (2021: £7.0m) principally due to £13.4m of capital funding (2021: £9.6m) and a gain on revaluation of fixed assets of £10.9m (2021: £4.7m).

Subsidiaries and Related Parties

Subsidiary companies contributed an operating loss of £88,000 (2021: £19,000), while JIC's share of associates' results was a profit of £261,000 (2021: loss of £144,000). The share of associates' results in the year relates to JIC's 33% interest in Plant Bioscience Limited and 45% interest in Leaf Systems International Limited ("LSI").

Capital expenditure

Capital expenditure in the year was £10.5m (2021: £9.4m). Investment has continued from the previous year in state-of-the-art scientific equipment, energy-efficient plant infrastructure, well-found laboratory equipment and enhanced plant growth facilities.

Cash

Group cash at 31 March 2022 was £42.9m (2021: £45.2m). JIC deposits its cash with UK registered financial institutions that meet its credit rating policy and subject to agreed counter-party limits. Investment income from cash deposits in the year was £111,000 (2021: £163,000), down on last year due to lower deposit rates.

Reserves position

Total group reserves increased by £16.8m in the year to £135.6m (2021: £8.9m to £118.8m).

Restricted reserves increased by £18.6m to £109.4m. Reserves of £11.3m relate to restricted designated capital reserves in connection with funding received from BBSRC to be used for future capital projects. Reserves of £0.8m relate to restricted designated general reserves in respect of ring-fenced strategic funding from BBSRC. The remaining £97.3m of restricted reserves relate to the value of fixed assets.

Unrestricted reserves decreased by £1.7m in the year to £26.2m (2021: increased by £1.8m to £27.9m), principally due to lower BBSRC strategic grant funding. Reserves of £12.1m relate to unrestricted designated reserves for planned capital and strategic investments. The remaining unrestricted reserves include general reserves of £6.4m and fixed assets reserves of £7.7m.

Reserves policy

JIC's reserves are held to support financial solvency, manage uncertainty and fund future activities. The level of reserves required by JIC is therefore determined by reference to:

- Future operational and capital expenditure requirements in the March 2028 Business Plan;
- Potential financial risks identified in the Business Plan and Risk Register;
- Potential funding required for strategic investments not included in the Business Plan;
- Working capital / liquidity requirements.

Unrestricted reserves that have been designated by the Governing Council for specific purposes are shown in separate designated reserves. At March 2022, £12.1m of unrestricted reserves were designated for planned capital and strategic investments (2021: £12.6m).

General unrestricted reserves at March 2022 were £6.4m, above the minimum general reserves target of £6.0m set by the Governing Council.

Grant proposals and awards

During the year, JIC researchers submitted grant proposals with a sponsor value of £38.2m (2021: £45.3m) and were awarded grants with a value of £12.7m (2021: £11.4m). The success rate for grant awards in the year was 33% by value (2021: 25%).

Stakeholder Engagement

– Section 172 Statement

The Trustee Directors consider that the decisions they have made during the financial year have satisfied the requirements of s172(1) of the Companies Act 2006 and that they have acted in good faith to promote the success of JIC as a whole, and in doing so having regard to the stakeholders and matters outlined in s172(1).

The Governing Council has the ultimate responsibility for the strategy of JIC and delivery of its charitable objectives. The table below sets out JIC's most significant stakeholders, why they are considered important and how the Institute engages.

Stakeholders	Why they are important	How we engage with them
Our staff and students	<ul style="list-style-type: none"> ● We are committed to providing a supportive, inspirational and dynamic environment for our staff and students to meet future scientific and societal challenges. ● We value the diversity of our staff, and are committed to the creation of a positive environment which is fair, welcoming and inclusive and where everyone is treated with dignity and respect. ● We are committed to the development of all our staff and students and providing equal opportunities that encourage flexible working, career development and work-life balance. 	<ul style="list-style-type: none"> ● During the year, regular communications to employees have been provided on matters affecting them, including factors affecting the Charity's progress, and have been consulted on decisions that impact them. ● All groups of staff and students have representation on the Inclusivity & Diversity Committee that meets 4 times a year to ensure an inclusive research culture ● Students' progress is monitored on a regular basis and employees undertake an annual appraisal where their training needs, work-life balance and career development are discussed.
Our members	<ul style="list-style-type: none"> ● JIC's corporate members are UK Research and Innovation (UKRI); John Innes Foundation (JIF) the University of East Anglia (UEA). Our members are key strategic partners that oversee our delivery against charitable objectives. 	<ul style="list-style-type: none"> ● The Members each nominate one Governing Council member and appoint one "observer" to attend Governing Council meetings, enabling them to participate in key decisions. ● An Annual Members' meeting is held to review progress against objectives.
Norwich Research Park	<ul style="list-style-type: none"> ● JIC is one of 4 independent, world-class research institutes based at the Norwich Research Park. The Institutes work closely together to create a unique centre of excellence in plant and microbial sciences, big data science and genomics, and food and health. 	<ul style="list-style-type: none"> ● The Institute Directors of the 4 institutes meet regularly to discuss common strategic and operational matters. ● JIC, the other Institutes, UKRI, UEA, JIF and the N&NU Hospital Trust are members of Anglia Innovation Partnership LLP, an organisation established to promote collaborative solutions to global challenges in food and health.
UK Research and Innovation	<ul style="list-style-type: none"> ● JIC is strategically funded, along with 7 other institutes, by the Biotechnology and Biological Sciences Research Council (BBSRC), part of UKRI. BBSRC supports JIC via strategic 5-year funding programmes, competitively won project grants and capital funding for infrastructure and technology investments. 	<ul style="list-style-type: none"> ● UKRI nominates a Governing Council member and appoints an "observer" to attend Governing Council meetings. ● JIC holds regular meetings with BBSRC to review progress of the Institute's mission and science programmes, including strategic and financial plans.
Research partners	<ul style="list-style-type: none"> ● JIC is an international centre of plant and microbial research. Our success is built on our collaborations and our international outlook. ● JIC is home to a range of state-of-the-art facilities and technology platforms to support scientists across the UK. 	<ul style="list-style-type: none"> ● An extensive programme of engagement with our new collaborative vision, Healthy Plants, Healthy People, Healthy Planet (HP3) is ongoing and involves discussion, input and views from stakeholders from industry, government and research partners, locally, nationally and internationally. JIC has strategic partnerships with research and academic institutions in the UK and worldwide, including Europe, China, Africa, Brazil and India.
Industry	<ul style="list-style-type: none"> ● JIC works closely with industry and the private sector to provide access to our capabilities, and to deliver sophisticated interdisciplinary research and product development at pace. 	<ul style="list-style-type: none"> ● JIC maintains a dialogue with industry, with regular consultations and knowledge exchange. ● JIC supports industry through collaborative and sponsored research and access to its facilities and platform services. JIC is proactive in identifying and responding to industry need. ● JIC protects its innovations and promotes their commercialisation and adoption by Industry. ● JIF nominates an industry representative as an "observer" to attend Governing Council meetings.
Community & the environment	<ul style="list-style-type: none"> ● Public views are at the heart of our research strategy and engaging with the public is an important part of our mission statement. 	<ul style="list-style-type: none"> ● JIC staff and students are trained in public engagement and communications and are supported to attend events, use digital media and to discuss and engage the public with our research. ● JIC hosts and attends community events – online, locally and nationally, to showcase, debate and discuss the nature of our research. ● JIC scientists are engaged in policy discussions at a national level surrounding the use of genetic technologies for crop improvement. ● JIC is investing heavily in more energy efficient facilities to reduce utilities consumption and waste.
Suppliers	<ul style="list-style-type: none"> ● JIC seeks to maintain and develop strong, open, collaborative relationships with our supply chain. 	<ul style="list-style-type: none"> ● JIC holds regular meetings with suppliers about purchasing relationships and ethical behaviours such as adherence to Modern Slavery principles.

Risk Assessment and Management

Governing Council is responsible for ensuring there are effective and adequate risk management and internal control systems in place, and confirm that the major risks to which the Institute is exposed have been reviewed and procedures established to manage those risks. The Audit Committee agrees an annual risk-based internal audit plan which covers major risks identified by management and Trustees. It receives reports from internal auditors on the effectiveness of internal controls, progress against the internal audit plan and progress on recommendations made in reports. Governing Council reviews a full risk report annually, including a 'heat map', tracking major risks. The Science and Impact Advisory Board (SIAB) assess the science quality and vision section of the risk register.

Principal risks and uncertainties

Risk area	Description of Risk	Management of Risk
Future BBSRC research funding	<ul style="list-style-type: none"> BBSRC strategic funding is reduced as a result of poor performance or public sector spending pressures. 	<ul style="list-style-type: none"> Regular monitoring of scientific performance, including consideration from the Science and Impact Advisory Board. Regular communication with BBSRC to report performance and ensure strategic alignment of research programmes. Monitoring of performance of competitive grant submissions.
Science direction and quality	<ul style="list-style-type: none"> The focus of science programmes, or balance between discovery and translational science, does not meet funders' or stakeholders' expectations. JIC fails to deliver the quality of science that meets internationally expected standards. 	<ul style="list-style-type: none"> The Science Impact and Advisory Board, comprising independent international experts, regularly reviews the development of strategic programmes and JIC impact. The executive Research Committee reviews scientific areas of excellence and horizon scans to identify strategically important scientific areas and opportunities.
Staff retention and recruitment	<ul style="list-style-type: none"> JIC is unable to retain or attract suitably skilled staff to enable it to sustain its scientific performance. In addition to scientific impact, this risk area could also have an impact on the level of funding the institute is able to attract. 	<ul style="list-style-type: none"> Strategy and action plans in place, overseen by Strategic Human Resources Group. Career development programmes in place to support high potential staff. Recruitment strategy and processes in place, including attractive support arrangements.
Cost pressures	<ul style="list-style-type: none"> Increased energy prices divert resources from science to infrastructure costs, resulting in a reduction in research activity and impact. High inflation rates increase research and support costs, resulting in a reduction in research activity and impact. 	<ul style="list-style-type: none"> Energy costs are hedged in the short-term and specialist advisers support the institute with energy procurement. Energy-saving opportunities are actively sought and investment cases developed. The impact of cost inflation is regularly discussed with funders with a view to mitigating the impact on research.
Estates	<ul style="list-style-type: none"> JIC's ageing estate facilities do not adequately support the delivery of its scientific objectives. Funding is inadequate to sustain and improve facilities necessary to support scientific objectives. Estates maintenance and infrastructure costs are too high, threatening long-term financial sustainability and the competitiveness of JIC's science. 	<ul style="list-style-type: none"> Plans for Next Generation Infrastructure are being developed to replace ageing buildings with flexible research infrastructure capable of integrating multidisciplinary teams and harnessing developments in technology. Regular communication with BBSRC on Estates Strategy and potential funding requirements. Facilities management systems enhanced. Continued investment in energy efficiency.
Technology investment	<ul style="list-style-type: none"> JIC is unable to keep pace with developments in technology underpinning its science. Funding is inadequate to sustain and improve technology facilities. 	<ul style="list-style-type: none"> 5-year investment plan developed. Funding opportunities identified and pursued for technology investments.
Compliance with sponsor funding requirements	<ul style="list-style-type: none"> JIC fails to comply with sponsor grant requirements resulting in a material financial impact. 	<ul style="list-style-type: none"> JIC undertakes regular reviews of its grant compliance processes for sponsors and the UKRI internal auditors.
Major site incident	<ul style="list-style-type: none"> A major incident disrupts scientific research programmes or administrative systems 	<ul style="list-style-type: none"> Business Continuity and Disaster recovery plans in place and tested periodically. Review of compliance with health & safety and relevant regulations from government agencies and internal auditors. Insurance arrangements in place.
UK does not associate with Horizon Europe research programmes	<ul style="list-style-type: none"> JIC is not able to access Horizon Europe programme funding or participate in EU research collaborations. JIC is not able to recruit or retain researchers from EU member countries as a result of loss of access to EU funding programmes. 	<ul style="list-style-type: none"> Regular dialogue with UKRI and other key stakeholders on risks of non-association and potential mitigations if UK does not associate. JIC has established strategic collaborations with European partners outside of formal funding frameworks.





Structure, Governance and Management

Members

The Members of JIC are:

- UK Research and Innovation – Biotechnology and Biological Sciences Research Council (“BBSRC”);
- John Innes Foundation (“JIF”); and
- University of East Anglia (“UEA”).

The Members each have the right to nominate one governing council member and appoint one “observer” to attend Governing Council meetings. Details of member appointments are provided in the table below. The Members are all guarantors of JIC, a company limited by guarantee and a registered charity, of an amount not exceeding £1, and for a year after resignation.

Organisation and governance

JIC is incorporated in England and Wales and is a company limited by guarantee (registered number 00511709) and a registered charity (number 223852). JIC is governed by its Memorandum and Articles of Association, adopted 27 September 2011, and its Institute Grant Agreement with BBSRC by whom it is strategically funded.

Governing Council (Board of Trustees)

The Governing Council comprises of at least the Chair, three science and three non-science Trustees. The Trustees who served during the year and up to the date of signing these financial statements were as follows:

Trustees	Appointment status	Role	Changes during period
<i>At date of Annual Report:</i>			
Sir T Hughes-Hallett	Independent	Chair	Appointed 1 September 2021
Prof J C Murrell	UEA appointment	Science	-
Ms J K Midura	Independent	Non-science	-
Prof N J Talbot	Independent	Science	-
Mr J H Innes	Independent	Non-Science	-
Prof J P Armitage	BBSRC appointment	Science	-
Dr J Vincent	JIF appointment	Science	-
Dr C A Caulcott	Independent	Science	Appointed 12 May 2022
Mr C Maw	Independent	Non-Science	Appointed 21 July 2022
<i>Served during the year:</i>			
Dr D J Keith	Independent	Science	Resigned 11 May 2022
Mr R J Maskell	Independent	Non-Science	Resigned 21 July 2022

The Governing Council has the ultimate responsibility for the strategy of JIC. Strategy is developed under advice from SIAB and the JIC Strategy Committee.

The Governing Council is supported by an Audit Committee to oversee financial management and risk and a Remuneration Committee to consider senior staff remuneration. The full Governing Council meets five times a year, the Audit Committee twice a year and the Remuneration Committee at least once a year and otherwise as required.

The Governing Council is also supported by a Science and Impact Advisory Board which comprises international experts in science and application of science, chaired in the year by Prof Judith Armitage.

The Science and Impact Advisory Board is responsible for providing strategic and scientific advice to the Director of JIC and the Governing Council on issues relevant to the JIC’s Mission and Science Programme. This includes ensuring that the JIC Science Programme maximises JIC’s potential for knowledge transfer, outreach and engagement with research users, stakeholders and the general public in addition to helping in the identification and development of new scientific funding opportunities to support the development of the JIC Science Programmes.

Recruitment, induction and training of Trustees

Governing Council vacancies are advertised as necessary. The Institute will also approach individuals thought to have the right skills.

New Governing Council members are invited to spend time with members of the Executive Team. This is a chance to learn about the Institute and identify opportunities to get more involved with JIC’s work.

In addition to the five formal meetings, all Trustees receive regular presentations from JIC’s scientists and briefings on key issues facing the organisation.

Trustee remuneration

None of the Trustees received any remuneration in the year in respect of their role as trustee directors.

Key Management Personnel

The Trustees delegate management of the day to day activities of the charitable company to the Director of the Institute, Prof Graham Moore, and the executive Strategy Committee.

Strategy Committee

JIC's executive Strategy Committee advises the Director at strategic and operational levels on major issues that affect the Institute with respect to research, appointments, new initiatives, business plan and infrastructure, particularly where such issues involve more than one of these areas.

Its membership is as follows:

- Director (Chair);
- Institute Strategic Programme Leaders;
- Heads of Departments Representative;
- Finance Director;
- Head of HR;
- Head of Research Grants & Contracts;
- Head of Commercialisation;
- Head of Strategic Engagement;
- Capital Projects Manager;
- Head of Directorate;
- Faculty Representative Group Leader.

Strategy Committee is supported by a number of other executive committees and groups including: Research Committee; Finance Committee; Heads of Departments Committee; KEC Strategy Committee; Strategic HR Committee; Inclusivity & Diversity Committee; and Health & Safety Committee.

Employees

JIC is a dynamic, multinational community of about 400 scientists and post graduate students. JIC's reputation for scientific excellence is international and it attracts some of the best scientists and brightest students internationally. JIC is committed to the training of the next generation of scientists. Activities include an undergraduate summer school (jointly with The Sainsbury Laboratory and Earlham Institute) that gives students the unique opportunity to spend the summer on site.

There are two different routes to a PhD: the prestigious rotation studentships and the NRP Doctoral Training Programme. We host Post-Doctoral scientists and independent Fellows from around the world.

JIC staff that joined before 1 October 2011 were employed by BBSRC up to 1 October 2017, when they transferred employment to the Institute under TUPE.

Transferred employees retain their membership of the Research Councils Pension Scheme (RCPS), where applicable, with JIC becoming an admitted employer in the scheme. The RCPS is a defined benefit scheme funded from annual grant-in-aid on a pay-as-you-go basis. The RCPS Pension Scheme is a multi-employer scheme and JIC is unable to identify its share of the underlying assets and liabilities. JIC therefore accounts for the scheme as if it were a wholly defined contribution scheme. As a result, the amount charged to the income and expenditure account represents the contributions payable to the scheme in respect of the accounting period. Liabilities for the payment of future benefits are the responsibility of the RCPS and accordingly are not included in these Financial Statements.

JIC has recruited all new staff from October 2011 on its own terms and conditions, covering basic pay and allowances, contractual payments, tax, NI, pension contributions and redundancy. Such staff are eligible to join a defined contribution scheme.

Equality and Diversity

It is the Charity's policy to provide equal opportunities to job applicants and employees of any race, nationality, ethnic origin, marital status, religion or belief, gender, disability, sexual orientation, age or employment status. The Charity does not condone or tolerate any form of discrimination in its recruitment or employment practices. All employees and applicants are treated on merit, fairly, with respect and dignity, recognised as individuals and valued for the contribution they make, provided fair and equal access to training, development, reward and progression opportunities and are accountable for the impact of their own behaviour and actions. All the Charity's policies follow these principles.

JIC is aware of its statutory duty to support the employment of disabled persons where possible, both in recruitment and by retention of employees who become disabled whilst in the employment of the charitable company, as well as generally through training and career development.

In 2017, JIC became the first research institute to be awarded a 'Gold' Athena SWAN award. The Athena SWAN charter recognises and celebrates good practice in recruiting, retaining and promoting women in science, technology, engineering, maths and medicine (STEMM) in higher education.

This award recognises JIC's culture that embraces the principles of flexibility that provide for family-friendly working practices, while at the same time demonstrating a commitment to career advancement for all employees.

JIC's ability to attract the best researchers and students internationally creates a vibrant, dynamic and intellectually nurturing environment for both training and scientific discovery and is a primary driver of our scientific effectiveness. JIC recognises the value of a diverse workforce and, although Athena SWAN is focused on gender equality, we believe that a fair and equitable working environment is key to both a productive workforce and delivery of JIC strategy, and that initiatives put in place to address gender inequality ultimately benefit all staff. JIC is a member of Stonewall Diversity champion programme.

During the year, regular communications to employees have been provided on matters affecting them, including factors affecting the Charity's progress, and they have been consulted on decisions affecting them.

Related Parties

Subsidiaries

JIC's subsidiaries in the year were as follows:

- John Innes Enterprises Limited (contract research);
- Norwich Biosciences Limited (intellectual property management);
- Norwich Research Limited (dormant);
- JIC NRP Capital Limited (dormant).

Associates

JIC's associates in the year were as follows:

- NBI Partnership Limited;
- Plant Bioscience Limited;
- Leaf Systems International Limited.

NBI Partnership Limited

JIC has a 25% interest in NBI Partnership Limited ("NBIP"). NBIP supplies support and administrative services to JIC and the three other research organisations based on the Norwich Research Park (Quadram Bioscience Institute, Earlham Institute and The Sainsbury Laboratory). NBIP fully recharges its costs to the four research organisations and accordingly it generates no profit or loss.

Plant Bioscience Limited

JIC owns one third of the share capital of Plant Bioscience Limited ("PBL"). PBL manages the intellectual property rights of the charitable company and other organisations.

Leaf Systems International Limited

JIC owns 45% of the voting share capital and at 31 March 2022 had invested £1,630,000 in non-voting share capital of Leaf Systems International Limited ("LSI"). LSI is a commercial research & development company specialising in the expression and production of proteins, metabolites and complex natural products.

JIC has agreed to provide LSI with a loan facility of £112,500, which is repayable between December 2020 and December 2022. As at 31 March 2022, £112,500 was drawn down by LSI (2021: £75,000). The loan has been provided on an arm's length basis and interest is payable on the loan at a rate of 2.5% pa.

BBSRC

BBSRC is a member of the charitable company.

JIC is strategically funded, along with seven other institutes, by BBSRC. BBSRC supports JIC via strategic 5-year funding programmes, competitively won project grants and capital funding for infrastructure and technology investments. The principal terms and conditions under which BBSRC provides its funding are set out in the Institute Grant Agreement. Key conditions include:

- BBSRC and the Institute shall meet at least annually to review and discuss the implementation and progress of the Institute's business, including strategic and financial plans.
- The Institute shall submit a draft Business Plan, covering a period of at least five years, for discussion.
- The Institute will demonstrate appropriate plans for the maintenance, renewal and development of the estate through a rolling 10 year Institute Estates Strategy covering capital projects, long term and routine maintenance.

BBSRC is part of UK Research and Innovation (UKRI), an organisation that brings together the UK's seven research councils.

John Innes Foundation

The John Innes Foundation ("JIF") is a member of the charitable company. JIC occupies land and buildings which are owned by JIF, with the principal research buildings leased at a peppercorn rent. In addition, JIF also sponsors the training of a number of students. Studentship grants in the year were £436,000 (2021: £390,000). Further details are provided in note 23 to the financial statements.

University of East Anglia

University of East Anglia ("UEA") is a member of the charitable company. The majority of PhD students at JIC are registered with UEA.

Anglia Innovation Partnership LLP

JIC is a member of Anglia Innovation Partnership LLP through its 100% subsidiary, JIC NRP Capital Limited. Anglia Innovation Partnership LLP is responsible for the management and development of the Norwich Research Park (NRP) estate and for the furtherance of the NRP Enterprise Vision.

JIC is entitled to receive a share of certain profits generated by Anglia Innovation Partnership LLP, however it has no liability for losses or in the event of insolvency. Anglia Innovation Partnership LLP has not yet generated any profits.

Energy and Carbon reporting

GHG emissions and energy use data

	Units	2021/22	2020/21
Emissions from combustion of gas (Scope 1)	tCO2e	9,565	8,834
Emissions from combustion of fuel for transport purposes (Scope 1)	tCO2e	19	8
Emissions from purchase of electricity (Scope 2). Location based grid factors.	tCO2e	1,558	1,708
Market based electricity Scope 2 emissions (renewable electricity contract)	tCO2e	0	854
Emissions from generation of electricity that is consumed in a transmission and distribution system for which the company does not own or control (Scope 3)	tCO2e	138	147
Emissions from business travel in rental cars or employee - owned vehicles where company is responsible for purchasing the fuel (Scope 3)	tCO2e	3.0	0.2
Total gross CO2e based on above	tCO2e	11,282	10,698
Energy consumption used to calculate above emissions	kWh	59,643,430	55,415,203
Intensity Metric	m2 Building area	39,997	39,997
Intensity Ratio	tCO2/m2 Building area	0.282	0.267

Methodology

John Innes Centre have followed the 2019 HM Government Environmental Reporting Guidelines. Emissions factors used are tonnes of CO2 equivalent and data has been calculated using the 2021 UK Government's Conversion Factors for Company Reporting.

Scope 1 emissions relate to on-site gas usage and emissions from Company owned vehicles. Scope 2 emissions relate to on-site imported electricity usage. Scope 3 emissions relate to grey fleet and electricity transmissions and distribution losses. The primary source for calculating energy consumption are the supplier invoices. Where energy data is not in line with the financial year, a pro rata calculation has been used to estimate the usage for the remainder of the reporting period. Electricity is supplied to other Companies on site, this electricity consumption is monitored using sub meter reads and deducted from the total site power usage to calculate John Innes Centre electricity consumption only.

John Innes Centre operate 3 x CHP engines. The proportion of the John Innes Centre power and heat usage generated from the CHP's have been calculated. To be able to do this, the measured heat and power efficiencies of the engines have been used to calculate the fuel input associated to the energy outputs.

Energy management

John Innes Centre have continued our focus on operational efficiency and improvements during the last year and continued to be committed to responsible energy consumption.

During the financial year, John Innes Centre have increased our focus on monitoring energy usage across the site, in order to better understand and reduce our energy usage and associated carbon dioxide emissions. Energy and sustainability actions undertaken included replacement of the air handling units to more efficient plant, replacement of High Voltage transformers with new low loss more efficient transformers and installing a rainwater harvesting system.

Due to staff returning to site following the COVID-19 pandemic, there has been more activity on site, which has resulted in an increase in overall site emissions. There has also been an increase in business travel emissions, as expected, with travel restrictions removed and staff starting to attend meetings and off-site visits again.

John Innes Centre have focused on formulating a detailed carbon reduction strategy and pathway to Net Zero for 2050. The work has defined a starting point with a baselining exercise and then plans for our road to Net Zero, with a range of opportunities and potential strategies to reduce our Scope 1 and 2 carbon emissions over the next 30 years.

Statement of responsibilities of the trustees of John Innes Centre in respect of the Trustees' Annual Report and financial statements

The trustees are responsible for preparing the Trustees' Annual Report and the financial statements in accordance with applicable law and regulations.

Company law requires the trustees to prepare financial statements for each financial year. Under that law they are required to prepare the group and parent company financial statements in accordance with UK Accounting Standards and applicable law (UK Generally Accepted Accounting Practice), including FRS 102 The Financial Reporting Standard applicable in the UK and Republic of Ireland.

Under company law the trustees must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the group and charitable company and of the group's excess of income over expenditure for that period. In preparing each of the group and charitable company financial statements, the trustees are required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- state whether applicable UK Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements; and
- assess the group's and the charitable company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern; and
- use the going concern basis of accounting unless they either intend to liquidate the group or the charitable company or to cease operations, or have no realistic alternative but to do so.

The trustees are responsible for keeping adequate accounting records that are sufficient to show and explain the charitable company's transactions and disclose with reasonable accuracy at any time the financial position of the charitable company and enable them to ensure that its financial statements comply with the Companies Act 2006. They are responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error, and have general responsibility for taking such steps as are reasonably open to them to safeguard the assets of the group and to prevent and detect fraud and other irregularities.

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 UK governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Insurance disclosure

The Institute maintains liability insurance for its Trustees, with an annual aggregate cover limit for all claims against them in that capacity. The Trustees have also been granted a qualifying third party provision under section 233 of Companies Act 2006. Neither the Institute's indemnity nor insurance provides cover in the event that a trustee is proved to have acted fraudulently or dishonestly.

Public benefit

The Trustees are satisfied they have complied with their duty in section 4 of the Charities Act 2011 to have due regard to public benefit guidance published by the Charities Commission. Based on this guidance, and as described in this Trustees' report, the Trustees believe the activities of JIC to be charitable in nature.

Disclosure of information to auditor

The trustees confirm that:

- so far as each trustee is aware, there is no relevant audit information of which the Company's auditor is unaware, and
- the trustees have taken all the steps that they ought to have taken as directors in order to make themselves aware of any relevant audit information and to establish that the Company's auditor is aware of that information.

Independent auditor

Larking Gowen LLP have been appointed as auditors and a resolution has been passed by the Board, concerning their appointment as auditors.

Approval of the Trustees' report

The Trustees' Report and Strategic Report were approved by Governing Council on 15 December 2022.

Sir Thomas Hughes-Hallett, Chair

Independent Auditor's report

To the Members of John Innes Centre

Opinion

We have audited the financial statements of John Innes Centre (the 'parent charitable company') and its subsidiaries (the 'group') for the year ended 31 March 2022 which comprise the Consolidated Statement of Financial Activities, Consolidated and Charitable Company Balances Sheets, Consolidated Statement of Cash Flows and Notes to the Accounts, including significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards, including Financial Reporting Standard 102 The Financial Reporting Standard applicable in the UK and Republic of Ireland (United Kingdom Generally Accepted Accounting Practice).

In our opinion the financial statements:

- give a true and fair view of the state of the group's and parent charitable company's affairs as at 31 March 2022, and of the group's 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 group and parent 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 group's or parent 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 trustees' annual report, other than the financial statements and our auditor's report thereon. The trustees are responsible for the other information contained within the annual report. 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. 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 course of 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 this gives rise to a material misstatement in the financial statements themselves. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

Opinions on other matters prescribed by the Companies Act 2006

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

- the information given in the trustees' report (incorporating the strategic report and the directors' report) for the financial year for which the financial statements are prepared is consistent with the financial statements; and
- the strategic report and the directors' report 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 group and parent charitable company and its environment obtained in the course of the audit, we have not identified material misstatements in the strategic report and the directors' report.

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

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

Responsibilities of trustees

As explained more fully in the trustees' responsibilities statement set out on page 34, the trustees (who are also the directors of the parent 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 group's and parent 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 group or parent charitable company or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

We have been appointed auditor under the Companies Act 2006 and report in accordance with this Act.

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

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.

Due to the field in which the group operates, we identified the areas most likely to have a direct material impact on the financial statements as compliance with UK tax legislation, UK accounting standards, UK charity law and the Companies Act 2006. In addition, we considered the provisions of other laws and regulations which whilst not having a direct impact on the financial statements, are fundamental to the group's ability to operate including health and safety; employment law, and compliance with various other regulations relevant to the conduct of the group's operations.

Our approach to identifying and assessing the risk of material misstatement in respect of irregularities, including fraud and non-compliance with laws and regulations, included the following:

- Enquiries with management about any known or suspected instances of non-compliance with laws and regulations, accidents in the workplace, potential litigation or claims and fraud;
- Reviewing legal and professional fees to confirm matters where the group engaged lawyers during the year;

- Reviewing financial statement disclosures and tax matters, and testing to supporting documentation to assess compliance with applicable laws and regulations;
- Reviewing board minutes and any relevant correspondence with external authorities;
- Challenging assumptions and judgements made by management in their significant accounting estimates, particularly in relation to the recognition of grant income and the valuation of leasehold land and buildings; and
- Auditing the risk of management override of controls, including through testing journal entries and other adjustments for appropriateness, and evaluating the business rationale of any significant transactions outside the normal course of business.

Due to the inherent limitations of an audit, there is a risk that we will not detect all irregularities, including those leading to a material misstatement in the financial statements or non-compliance with regulation. This risk increases the more that compliance with a law or regulation is removed from the events and transactions reflected in the financial statements, as we will be less likely to become aware of instances of non-compliance. The risk is also greater regarding irregularities occurring due to fraud rather than error, as fraud involves intentional concealment, forgery, collusion, omission or misrepresentation.

A further description of our responsibilities is available on the Financial Reporting Council's website at: <https://www.frc.org.uk/Our-Work/Audit/Audit-and-assurance/Standards-and-guidance/Standards-and-guidance-for-auditors/Auditors-responsibilities-for-audit/Description-of-auditors-responsibilities-for-audit.aspx>. This description forms part of our auditor's report.

Use of our report

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

Anders Rasmussen FCA (Senior Statutory Auditor)

for and on behalf of Larking Gowen LLP
Chartered Accountants
Statutory Auditors
Norwich

Consolidated statement of financial activities

For the year ended 31 March 2022

Incorporating an income and expenditure account

	Note	Unrestricted funds £000	Restricted general funds £000	Restricted capital funds £000	Total 2022 £000	Total 2021 £000
Income						
<i>Income from charitable activities</i>						
Grant income		-	34,691	-	34,691	36,867
Capital and maintenance grants		-	1,236	12,184	13,420	9,554
Other charitable income		705	-	-	705	829
<i>Income from other trading activities</i>						
Trading income		491	-	-	491	462
Rental income		141	-	-	141	64
<i>Investment income</i>						
Share of operating result of associates	12	261	-	-	261	-
Other income		3,121	-	-	3,121	2,322
Total income	2	4,837	35,927	12,184	52,948	50,268
Expenditure						
Charitable activities	3	(3,369)	(36,532)	(5,930)	(45,831)	(44,963)
Raising funds	3	(370)	-	-	(370)	(393)
Trading expenditure	3	(579)	-	-	(579)	(443)
Other resources expended	3	(245)	-	-	(245)	(200)
Share of operating result of associates	12	-	-	-	-	(144)
Total expenditure		(4,563)	(36,532)	(5,930)	(47,025)	(46,143)
Net income for the year		274	(605)	6,254	5,923	4,125
<i>Transfers and revaluation</i>						
Capital transfers	20	(624)	(36)	660	-	-
Other transfers	20	(1,387)	1,387	-	-	-
Gain on revaluation of tangible fixed assets	10	-	-	10,905	10,905	4,730
Net movement in funds for the year		(1,737)	746	17,819	16,828	8,855
Funds brought forward		27,905	48	90,829	118,782	109,927
Funds carried forward	20	26,168	794	108,648	135,610	118,782

The Consolidated Statement of Financial Activities ("SoFA") includes all gains and losses recognised in the year. All incoming resources and expenditure relates to continuing activities.

The notes on pages 40 - 57 form part of these financial statements.

Consolidated and charitable company balance sheets

As at 31 March 2022

	Note	Group 2022 £000	Group 2021 £000	Company 2022 £000	Company 2021 £000
Fixed Assets					
Tangible assets	10	103,083	87,918	103,083	88,155
Intangible assets	11	-	-	-	-
Investments	12	-	-	1	1
<i>Investments in associates</i>					
Share of total assets		2,590	3,664	-	-
Share of total liabilities		(679)	(2,014)	-	-
	12	1,911	1,650	-	-
Total fixed assets		104,994	89,568	103,084	88,156
<i>Current assets</i>					
Stocks	13	283	258	283	258
Debtors	14	13,281	17,438	13,224	17,392
Cash at bank and in hand	15	42,948	45,215	42,768	45,010
		56,512	62,911	56,275	62,660
<i>Current liabilities</i>					
Creditors: amounts falling due within one year	16	(25,612)	(33,413)	(25,495)	(33,400)
Total net current assets		30,900	29,498	30,780	29,260
Total assets less current liabilities		135,894	119,066	133,416	117,416
Provisions for liabilities and charges	18	(284)	(284)	(284)	(284)
Total net assets	19	135,610	118,782	133,580	117,132
The funds of the charity					
<i>Unrestricted funds</i>					
Fixed assets reserve	20	7,663	7,994	5,752	6,344
Designated capital reserve	20	12,118	12,645	12,118	12,645
General reserve	20	6,387	7,266	6,267	7,028
Total unrestricted funds		26,168	27,905	24,137	26,017
<i>Restricted funds</i>					
General reserve	20	794	48	794	48
Fixed assets reserve	20	62,607	57,742	62,608	57,980
Designated reserves	20	11,317	9,255	11,317	9,255
Revaluation reserve	20	34,724	23,832	34,724	23,832
Total restricted funds		109,442	90,877	109,443	91,115
Total funds	20	135,610	118,782	133,580	117,132

A separate income and expenditure account has not been presented for JIC as this is exempted by Section 408 of the Companies Act 2006. The surplus after tax of JIC was £16,448,000 (2021: £8,832,000).

The financial statements on pages 37 to 57 were approved by the Governing Council on 15 December 2022 and were signed on its behalf by:

Sir Thomas Hughes-Hallett, Chair

Company registration number: 00511709

Consolidated statement of cash flows

For the year ended 31 March 2022

	Total 2022	Total 2021
	£000	£000
Cash flows from operating activities		
Net income and net movement in funds for the year	16,828	8,855
Net movement in funds for the year	(261)	144
Revaluation of tangible fixed assets	(10,905)	(4,730)
Net income for the year	5,662	4,269
Interest receivable	(118)	(170)
Depreciation and amortisation	5,925	5,645
Impairment of investment	-	(245)
Impairment of land	5	819
Capital grants receivable	(12,184)	(8,326)
Loss on disposal of tangible assets	1,175	1,449
(Increase)/Decrease in stocks	(25)	8
Decrease/(Increase) in debtors	4,157	(7,574)
(Decrease)/Increase in creditors	(7,801)	9,086
Net cash (used in) / provided by operating activities	(4,204)	4,961
Cash flows from investing activities:		
Interest received	118	170
Purchase of tangible assets	(10,458)	(9,381)
Investment in associate	-	-
Capital grants received	12,184	8,326
Proceeds from sale of tangible assets	93	27
Net cash (used in)/ provided by investing activities	1,937	(858)
Change in cash and cash equivalents in the reporting period	(2,267)	4,103
Cash and cash equivalents at the beginning of the period	45,215	41,112
Total cash and cash equivalents at the end of the year	42,948	45,215

The movement in net debt for the current and prior year is identical to the movements in cash flow set out above.

The notes on pages 40 to 57 form part of these financial statements.

Notes to the accounts

1. ACCOUNTING POLICIES

a. Basis of preparation

The group financial statements have been prepared under the historical cost convention and applicable accounting standards. They have also been prepared in accordance with Accounting and Reporting by Charities; Statement of Recommended Practice applicable to charities preparing their accounts in accordance with the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS102)– (Charities SORP (FRS102)), the Financial Reporting Standard applicable in the UK and Republic of Ireland (FRS102) and the Companies Act 2006.

The principal accounting policies adopted in these financial statements, which have been consistently applied, are as follows:

b. Basis of consolidation

The consolidated financial statements incorporate the financial statements of JIC and all its subsidiary undertakings in accordance with Financial Reporting Standard ("FRS") 102 "Accounting for Subsidiary Undertakings", and associated entities which are accounted for using the equity method.

Associates are entities over which JIC has significant influence but not control. Under the equity method, the investment is initially recognised at cost, and the carrying amount is increased or decreased to recognise JIC's share of the profit or loss of the associate after the date of acquisition. JIC's share of post-acquisition operating result is recognised in the statement of financial activities. Determination is made at each balance sheet date whether there is any evidence that the investment in the associate is impaired. If this is the case, the amount of impairment is calculated as the difference between the recoverable amount of the associate and its carrying value, and this amount is recognised adjacent to share of operating result of associates in the statement of financial activities.

JIC is one of four members of NBI Partnership Limited ("NBIP"). The group accounts for NBIP as an associate, although in practice the company makes no profit or loss and has net assets of NIL, therefore has no impact on the Group financial statements.

The financial statements of all group undertakings and associates are made up to 31 March 2022.

A separate income and expenditure account has not been presented for JIC as this is exempted by Section 408 of the Companies Act 2006. The surplus of JIC was £16,448,000 (2021: £8,832,000).

c. Going concern

The Trustees have prepared cash flow forecasts for the period to March 2028 which indicate that, taking account of reasonable possible downsides and the potential impact of inflation and COVID-19 on the operations and its financial resources, the Institute will have sufficient funds to meet its liabilities as they fall due for that period.

The Institute is reliant on its strategic programme funding from BBSRC, which was £13.2m in the year (2021: £16.8m). BBSRC has confirmed continued strategic funding of £13.2m for the year to March 2023. The

Institute expects its strategic programme funding for the 5 years to March 2028 to increase to £14.6m pa, subject to confirmation by BBSRC in late 2022.

Like most research organisations, the Institute's activities have been impacted by Covid-19 measures over the last 2 years. During this period, the Institute has been able to successfully maintain its research programmes and projects with minimal financial impact. The Institute has considered the potential financial impact of any restrictions for the next 12 months, including the potential for a further lockdown. Taking into account experience to date, business continuity arrangements and financial projections, the Institute considers the risk of a significant financial impact from Covid-19 to be low.

The Institute has prepared income, reserves and cash flow forecasts to March 2028. The forecasts indicate that the Institute will have significant cash headroom over the period, with cash balances of at least £30m for the 12 months from the signing date of this Annual Report.

Consequently, the Trustees are confident that the Institute will have sufficient funds to continue to meet its liabilities as they fall due for at least 12 months from the date of approval of the financial statements and therefore have been prepared the financial statements on a going concern basis.

d. Income

Charitable grant income represents grants received and receivable in the year from outside granting bodies.

Grants that provide core funding are recognised in the year in which entitlement passes. Grant funding received to train students and undertake research is recognised in the year in which the obligation is fulfilled. Grant funding is released to match expenditure incurred during the year together with any related contributions towards overhead costs.

Other charitable income represents non-grant revenue from providing scientific research services to other academic institutions and other services. Revenue is recognised in the year in which the obligation is fulfilled.

Trading income, which includes rent, other letting income and other income, relates to the non-charitable services undertaken by Norwich Biosciences Limited and John Innes Enterprises Limited, subsidiary companies of JIC, and is recognised in accordance with the terms of the contracts entered into, reflecting the point at which the obligations of the companies have been satisfied.

Investment income relates to interest receivable from treasury deposits and related party loans. The interest is recognised in the year in which it is earned.

Other income includes site infrastructure charges, UEA tuition fee income and miscellaneous income. Revenue is recognised in the year in which the obligation is fulfilled.

1. Accounting Policies (continued)

Capital grants are recognised when entitlement passes, which is typically on receipt. Where capital funding includes terms and conditions that must be met before there is unconditional entitlement, the grant income is recognised as those conditions are met, which usually results in capital funding being recognised to match the capital costs incurred.

e. Expenditure

Charitable activity expenditure represents the full cost of the research performed. It includes the cost of direct staff, consumable stocks and indirect costs apportioned on the basis of use.

Raising funds represents the cost of obtaining funds for research. The cost of obtaining funds includes an estimate of the time/salary cost of project leaders preparing and reviewing grant application forms.

Governance costs represent the necessary cost of compliance with statutory and constitutional requirements and any other costs which are not direct charitable expenditure.

Support costs have been allocated to charitable activity expenditure, costs of generating funds and governance costs based upon activity or headcount as indicated in note 4 to the financial statements.

Other expenditure relates to expenditure maintaining capital assets that does not meet the capitalisation policy.

Trading expenditure relates to the costs of undertaking the non-charitable services performed by subsidiary companies of JIC, and is recognised in the period in which it is incurred.

f. Restricted funds

Where research at JIC is funded by grants with conditions attached to them, these are shown as restricted. Capital grants received and receivable together with other restricted funds received and receivable and used to purchase tangible assets are included within restricted funds.

From April 2018 the strategic programme grants from the UK Research and Innovation - Biotechnology and Biological Sciences Research Council ("BBSRC") are shown as restricted.

A restricted fixed assets reserve has been established representing the net book value of fixed assets purchased from capital grants.

Restricted reserves include a designated capital reserve of £11,317,000 (2021: £9,255,000) in connection with funding received from BBSRC, which is to be used on future capital projects to be agreed with BBSRC.

g. Unrestricted funds

Research grants that do not contain conditions for the final receipt of funds have been treated as unrestricted. Funds received for non-specified purposes have also been included as unrestricted.

A fixed assets reserve has been established within unrestricted reserves representing the net book value of fixed assets funded from unrestricted reserves.

Unrestricted reserves that have been designated by the Governing Council for specific purposes are shown in separate designated reserves.

h. Capital transfers

A transfer from unrestricted to restricted reserves equal to the depreciation charge for assets purchased from unrestricted reserves is made as a capital transfer.

i. Other Transfers

A transfer from restricted to unrestricted reserves is made following the completion of performance conditions in connection with restricted non-capital grant activity.

j. Revalue depreciation transfer

A transfer from the restricted fixed asset reserve to the revaluation reserve is made in relation to the differences in the historic cost and revalued depreciated costs.

k. Designated capital transfers

A transfer from the unrestricted general reserve to the unrestricted designated reserve is made in relation to the expenditure which had been designated by Governing Council for use in the financial projections to March 2026.

l. Centre funded capital

Capital expenditure funded from unrestricted reserves is shown as a transfer from the unrestricted designated capital reserve or general reserve to the unrestricted fixed asset reserve.

m. Tangible assets and depreciation

Tangible assets are shown at cost or valuation less accumulated depreciation. The cost of tangible assets is their purchase cost, together with any incidental costs of acquisition. Depreciation is calculated using the straight line method to write off the cost or valuation of assets, less any estimated residual value, over their estimated useful lives at the following rates:

Leasehold land and buildings – over lease term or useful life, if shorter;

Freehold land – not depreciated;

Freehold buildings – estimated economic life;

Plant, machinery and equipment – estimated economic life;

Scientific equipment – 5 to 15 years straight line;

Computer equipment – 3 to 5 years straight line;

Motor vehicles – 4 years straight line;

Combined heat and power scheme – 20 years straight line.

The leasehold buildings have been depreciated over their estimated economic life. The Trustees have determined that land is not subject to depreciation. Assets in the course of construction are not depreciated until the asset is in full use.

JIC includes in its financial statements leasehold land and buildings owned by third parties, which it occupies and enjoys through extended peppercorn leases, at their fair value. The Trustees consider that in substance, the risks and rewards of ownership of the assets have passed to the Institute, and as such follow a policy of recognising the assets on the balance sheet reflects its continuing occupancy of these assets for the foreseeable future.

1. Accounting Policies (continued)

n. Revaluation of tangible fixed assets

Leasehold land and buildings are revalued by an external surveyor on a depreciated replacement cost basis every five years. The valuation is updated in the interim period using indexation tables. Gains on revaluation are credited to the revaluation reserve. Losses, except in cases of a clear consumption of economic benefit, are charged to the operating result for the period, to the extent they are not offset by previous gains. In cases of a clear consumption of economic benefit, losses are charged to unrestricted or restricted reserves as applicable, irrespective of whether they are offset by previous gains.

o. Intangible fixed assets and amortisation

Computer Software development costs are recognised as intangible fixed assets at cost less amortisation and any provision for impairment. Intangible assets are amortised over the estimated life of the asset acquired less any residual value.

Amortisation is calculated to write off the cost or valuation less the estimated residual value of intangible assets by equal instalments over their estimated useful economic lives as follows:

Computer Software	3 to 5 years
-------------------	--------------

Intangible assets under construction are not amortised until the asset is in full use.

p. Fixed asset investments

The consolidated balance sheet includes the group's share of each associate's gross assets and liabilities. The share of each associate's net income is reported in JIC's consolidated statement of financial activities.

q. Stocks

Stocks are stated at the lower of cost and net realisable value. Provision is made, where necessary, for slow moving or obsolete stock.

r. Debtors

Debtors are non-interest bearing and are stated at their nominal value, as reduced by appropriate allowances for estimated irrecoverable amounts.

Included in debtors is a loan (£113k) provided to LSI, which is repayable between December 2020 and December 2022. The loan has been provided on an arm's length basis and interest is payable on the loan at a rate of 2.5% pa.

s. Cash balances held as grant co-ordinator

Cash balances held on behalf of the European Union in the charitable company's capacity as grant co-ordinator are included within cash on the charitable company's balance sheet, and are disclosed in note 24 to the financial statements.

t. Trade creditors

Trade creditors are non-interest bearing and are stated at their nominal value.

u. Loans

Loans are stated on the balance sheet at amortised cost.

v. Provisions

A provision is recognised in the financial statements where there is a legal or constructive obligation to transfer economic benefit to a third party.

w. Staff and Pensions

JIC staff that joined before 1 October 2011 were employed by BBSRC up to 1 October 2017, when they transferred employment to the Institute under TUPE.

Transferred employees retain their membership of the Research Councils Pension Scheme (RCPS), where applicable, with JIC becoming an admitted employer in the scheme. The RCPS is a defined benefit scheme funded from annual grant-in-aid on a pay-as-you-go basis. The RCPS Pension Scheme is a multi-employer scheme and JIC is unable to identify its share of the underlying assets and liabilities. JIC therefore accounts for the scheme as if it were a wholly defined contribution scheme. As a result, the amount charged to the income and expenditure account represents the contributions payable to the scheme in respect of the accounting period. Liabilities for the payment of future benefits are the responsibility of the RCPS and accordingly are not included in these Financial Statements.

JIC has recruited all new staff from October 2011 on its own terms and conditions, covering basic pay and allowances, contractual payments, tax, NI, and liabilities for pension contributions and redundancy. Such staff are eligible to join a defined contribution scheme.

x. Termination benefits

Redundancy payments are recognised as a liability and an expense only when the event is demonstrably committed to by either: a. termination of the employment of an employee or group of employees before the normal retirement date, or b. provision of termination benefits as a result of an offer made in order to encourage voluntary redundancy.

y. Operating leases

Rental costs are charged to the statement of financial activities on a straight line basis over the life of the lease.

z. Foreign currency transactions

The functional and reporting currency is pounds sterling. Transactions in foreign currencies are recorded at the rate of exchange ruling at the date of the transaction. Assets and liabilities denominated in foreign currencies are translated at year end exchange rates. All gains and losses are taken to the statement of financial activities in the year to which they relate.

aa. Financial instruments

Financial assets and financial liabilities are recognised upon becoming a party to the contractual provisions of the instrument.

The group only enters into basic financial instrument transactions that result in financial assets and liabilities such as trade and other accounts receivable and payable.

bb. Judgements in applying accounting policies and key sources of estimation

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

- Depreciation, which has been charged in line with the accounting policy above. The amount of depreciation charged and net book value of the assets is included in Note 10.
- Leasehold land and buildings are held at a revalued amount. The valuation is performed by an external surveyor on a depreciated replacement cost basis every five years. The valuation is updated in the interim period using indexation tables.

2. Analysis of Incoming Resources

	Research activities	Student activities	Other activities	Total 2022	Research activities	Student activities	Other activities	Total 2021
	£000	£000	£000	£000	£000	£000	£000	£000
Grant income								
BBSRC	21,445	3,708	-	25,153	25,660	3,229	-	28,889
Other government departments	1,515	34	-	1,549	924	78	-	1,002
European Union	3,002	60	-	3,062	2,773	63	-	2,836
Industrial partners	943	84	-	1,027	615	37	-	652
John Innes Foundation	142	436	-	578	170	390	-	560
Other charities	2,343	142	-	2,485	1,999	116	-	2,115
Universities	27	76	-	103	59	7	-	66
Other grants	698	36	-	734	743	4	-	747
Total grant income	30,115	4,576	-	34,691	32,943	3,924	-	36,867
Capital and maintenance grants								
BBSRC								
Capital expenditure	13,287	-	-	13,287	9,554	-	-	9,554
John Innes Foundation								
Capital expenditure	133	-	-	133	-	-	-	-
Total capital grants	13,420	-	-	13,420	9,554	-	-	9,554
Other charitable income								
Scientific services	-	-	633	633	-	-	564	564
Miscellaneous income	-	-	72	72	-	-	265	265
Total other charitable income	-	-	705	705	-	-	829	829
Trading income								
John Innes Enterprises Limited	-	-	464	464	-	-	442	442
Norwich Biosciences Limited	-	-	27	27	-	-	20	20
Total trading income	-	-	491	491	-	-	462	462
Rental income								
Conferencing Facilities	-	-	64	64	-	-	(3)	(3)
Hill House	-	-	77	77	-	-	67	67
Total rental income	-	-	141	141	-	-	64	64
Investment income								
Interest receivable on cash deposits	-	-	111	111	-	-	163	163
Interest receivable on loan to related party	-	-	7	7	-	-	7	7
Total investment income	-	-	118	118	-	-	170	170
Income from investment in associates	-	-	261	261	-	-	-	-
Total associates income	-	-	261	261	-	-	-	-
Other generated income								
Site infrastructure recharges	-	-	1,520	1,520	-	-	805	805
Other	-	-	1,601	1,601	-	-	1,517	1,517
Total other generated income	-	-	3,121	3,121	-	-	2,322	2,322
Total income	43,535	4,576	4,837	52,948	42,497	3,924	3,847	50,268

JIC's activities consist principally of scientific research in the United Kingdom.

- Grant income of £34,691k (2021: £36,867k) is all restricted general funds.
- Capital grants of £13,420k (2021: £9,554k), £1,236k (2021: £1,228k) is restricted general funds and £12,184k (2021: £8,326k) is restricted capital funds
- Other charitable income of £705k (2021: £829k), £705k (2021: £829k) is unrestricted funds.
- In both periods all trading and investment income is unrestricted.

3. Analysis of Resources Expended

	Note	Research activities £000	Student activities £000	Other activities £000	Total 2022 £000	Research activities £000	Student activities £000	Other activities £000	Total 2021 £000
Direct charitable expenditure:									
Staff costs		13,639	-	-	13,639	13,490	-	-	13,490
Direct costs		11,719	3,764	-	15,483	11,925	4,071	-	15,996
Depreciation and impairment		5,930	-	-	5,930	6,219	-	-	6,219
Governance costs	4	-	-	107	107	-	-	51	51
Support costs	4	8,128	2,544	-	10,672	6,947	2,260	-	9,207
Expenditure on charitable activities		39,416	6,308	107	45,831	38,581	6,331	51	44,963
Raising funds	4	-	-	370	370	-	-	393	393
Trading expenditure		-	-	579	579	-	-	443	443
Other resources expended		-	-	245	245	-	-	200	200
Share of operating result of associates		-	-	-	-	-	-	144	144
Total expenditure		39,416	6,308	1,301	47,025	38,581	6,331	1,231	46,143

Included within expenditure is restricted general expenditure of £36,532k (2021: £35,169k), and restricted capital resources expended (depreciation) of £5,930k (2021: £6,219k). All other expenditure is unrestricted.

Analysis of governance costs	Total 2022 £000	Total 2021 £000
Staff costs	35	15
Travel costs	2	-
Other costs	70	36
Total governance costs	107	51
Total governance costs	59	51

4. Allocation of Support Costs, Governance and Raising Funds

	Research activities £000	Student activities £000	Raising funds £000	Governance costs £000	Total £000	Basis of Allocation
Governing Council and SIAB	-	-	-	68	68	Headcount
Lab management	393	123	-	-	516	Headcount
Institute management	382	120	-	-	502	Headcount
Scientific services	93	29	-	-	122	Headcount
Facilities management and utilities*	5,469	1,711	-	-	7,180	Headcount
Finance and Purchasing*	504	158	-	-	662	Headcount
Computing and Library*	567	178	-	-	745	Headcount
Human Resources*	262	82	-	-	344	Headcount
Contracts services*	-	-	277	-	277	Activity
Other support services	458	143	93	39	733	Activity
Total support costs 2022	8,128	2,544	370	107	11,149	
Governing Council and SIAB	-	-	-	15	15	Headcount
Lab management	393	128	-	-	521	Headcount
Institute management	552	181	-	-	733	Headcount
Scientific services	561	183	-	-	744	Headcount
Facilities management and utilities*	3,610	1,181	-	-	4,791	Headcount
Finance and Purchasing*	502	164	-	-	666	Headcount
Computing and Library*	581	190	-	-	771	Headcount
Human Resources*	262	86	-	-	348	Headcount
Contracts services*	-	-	300	-	300	Activity
Other support services	486	147	93	36	762	Activity
Total support costs 2021	6,947	2,260	393	51	9,651	

* includes services supplied by NBI Partnership Limited (see note 23). Scientific services costs are shown net of recharges to science projects.

5. Taxation

John Innes Centre ("JIC") is considered to pass the tests set out in Paragraph 1 Schedule 6 Finance Act 2010 and therefore it meets the definition of a charitable company for UK Corporation tax purposes. Accordingly, the Charity is potentially exempt from taxation in respect of income or capital gains received within categories covered by Chapter 3 Part 11 Corporation Tax Act 2010 or Section 256 of the Taxation of Chargeable Gains Act 1992, to the extent that such income or gains are applied exclusively to charitable purposes.

The trading activities of the subsidiary companies are subject to corporation tax; however profits in the year are gifted to the charitable company resulting in a £nil (2021: £nil) tax charge payable.

Unutilised losses of £79,000 (2021: £79,000) have been carried forward within the subsidiary companies for offset against future taxable profits. A deferred tax asset has not been recognised due to uncertainty over utilisation of these losses.

6. Operating Surplus

Operating surplus is stated after charging/(crediting):	Total 2022	Total 2021
	£000	£000
Audit services:		
Fees payable to the charitable company's auditors for the audit of charitable company and consolidated financial statements	29	29
Fees payable for the audit of the charitable company's subsidiaries pursuant to legislation	1	4
Depreciation and amortisation	5,930	6,464
Impairment of investment in associate	-	(245)
Loss on disposal of tangible assets	175	1,449
Hire of plant and equipment	65	64
Rent of land and buildings	33	50
(Profit)/Loss on foreign exchange translations	(18)	124

7. Net Income from Trading Activities of Subsidiaries

Profit and loss account	John Innes Enterprises Limited	Norwich Biosciences Limited	Total 2022	John Innes Enterprises Limited	Norwich Biosciences Limited	Total 2021
	£000	£000	£000	£000	£000	£000
Turnover	464	27	491	442	20	462
Cost of sales	(579)	-	(579)	(443)	-	(443)
Gross (loss)/profit	(115)	27	(88)	(1)	20	19
Administrative expenses	-	-	-	-	-	-
Operating (loss)/profit	(115)	27	(88)	(1)	20	19
Interest received	-	-	-	-	-	-
Operating (loss)/profit retained in subsidiary	(115)	27	(88)	(1)	20	19
Net assets at 31 March	73	44	117	199	37	236

In addition to the above, £29,155 (2021: £123,914) in Gift Aid was paid to the charitable company in the year.

8. Remuneration of Members of the Governing Council

None of the members of the Governing Council received any remuneration from the group during the current or prior year for their duties as Trustees.

Attendance expenses incurred by 2 (2021: nil) Trustees whilst carrying out their duties amounted to £573 during the year (2021: nil).

9. Employee Information

The monthly average number of persons employed by or deployed to the group and charitable company during the year, analysed by category, was as follows:

Group and charitable company	2022 Number	2021 Number
Scientific	347	348
Office management and services	31	28
Total	378	376

The aggregate payroll costs of these persons were:

Group and charitable company	Note	2022 £000	2021 £000
Wages and salaries		13,702	13,415
Redundancy costs		43	14
Social security costs		1,393	1,393
Other pension costs	22	2,007	2,031
Total		17,145	16,853

An analysis of the number of staff who fall within staff cost bands (excluding pension cost) from £60,000 upwards is provided below:

Group and charitable company	2022 Number	2021 Number
£60,000 - £69,999	16	14
£70,000 - £79,999	7	6
£80,000 - £89,999	9	9
£90,000 - £99,999	7	8
£100,000 - £109,999	2	3
£110,000 - £119,999	3	2
£120,000 - £129,999	1	2
£130,000 - £139,999	-	1
£140,000 - £149,999	1	-
£150,000 - £159,999	1	1
£160,000 - £169,999	1	-
£180,000 - £189,999	1	1
Total	49	47

The number of staff with emoluments greater than £60,000 who were also members of the Research Councils' Pension Schemes was twenty-four (2021: twenty-five). Eighteen staff (2021: Seventeen) with emoluments greater than £60,000 are members of a defined contribution pension scheme.

Staff that joined prior to 1 October 2011 were employed by BBSRC up to 1 October 2017, when these employees transferred employment to the Institute under TUPE. Transferred employees retain their membership of the Research Councils Pension Scheme, where applicable, with JIC becoming an admitted employer in the scheme.

Staff that joined after 1 October 2011 are employed under JIC terms & conditions.

The key management personnel of the parent charity, JIC, comprise of the Trustees and the members of the strategy committee.

The key management personnel of the group comprise those of the charity and the key management personnel of the wholly owned subsidiaries, John Innes Enterprises Ltd, Norwich Biosciences Ltd, Norwich Research Ltd and JIC NRP Capital Ltd. All the subsidiaries key management personnel are the same as the parent company. No staff costs were recharged in respect of this. The employee costs (salaries, social security costs and pension costs) of the key management personnel for the group and charitable company were £1,625,335 (2021: £1,568,098).

10. Tangible Assets

Group	Freehold land and buildings	Long leasehold land and buildings	Plant, machinery and equipment	Assets under construction	Total
	£000	£000	£000	£000	£000
Cost/Valuation					
At 1 April 2021	3,769	60,380	44,778	4,568	113,495
Transfers	2	3,372	986	(4,360)	-
Additions	-	638	7,474	2,346	10,458
Revaluation	-	7,928	-	-	7,928
Disposals	-	-	(266)	(183)	(449)
At 31 March 2022	3,771	72,318	52,972	2,371	131,432
Accumulated Depreciation					
At 1 April 2021	819	-	24,758	-	25,577
Charge for the year	5	2,977	2,948	-	5,930
Revaluation	-	(2,977)	-	-	(2,977)
Disposals	-	-	(181)	-	(181)
At 31 March 2022	824	-	27,525	-	28,349
Net book value at 31 March 2022	2,947	72,318	25,447	2,371	103,083
Net book value at 31 March 2021	2,950	60,380	20,020	4,568	87,918
Charitable company					
	Freehold land and buildings	Long leasehold land and buildings	Plant, machinery and equipment	Assets under construction	Total
	£000	£000	£000	£000	£000
Cost/Valuation					
At 1 April 2021	3,769	60,617	44,778	4,568	113,732
Transfers	2	3,372	986	(4,360)	-
Additions	-	638	7,474	2,346	10,458
Revaluation	-	7,691	-	-	7,691
Disposals	-	-	(266)	(183)	(449)
At 31 March 2022	3,771	72,318	52,972	2,371	131,432
Accumulated Depreciation					
At 1 April 2021	819	-	24,758	-	25,577
Charge for the year	5	3,214	2,948	-	6,167
Revaluation	-	(3,214)	-	-	(3,214)
Disposals	-	-	(181)	-	(181)
At 31 March 2022	824	-	27,525	-	28,349
Net book value at 31 March 2022	2,947	72,318	25,447	2,371	103,083
Net book value at 31 March 2021	2,950	60,617	20,020	4,568	88,155

Assets under construction represent capital items which are not yet in full economic use.

JIC includes in its financial statements land and buildings owned by third parties, which it occupies and enjoys through extended peppercorn leases, at their full value. The Trustees consider that in substance, the risks and rewards of ownership of the assets have passed to the Institute, and as such a policy of recognising the assets on the balance sheet reflects its continuing occupancy of these assets for the foreseeable future.

The group and charitable company's leasehold land and buildings were revalued by an external surveyor (Powis Hughes Chartered Surveyors, RICS) on a depreciated replacement cost basis at 31 March 2021. These values have been updated at 31 March 2022 using indexation tables.

Leasehold land and buildings on an historical cost basis would be recorded at a net book value of £38,976,000 (2021: £36,248,000).

All of the charitable company's assets at 31 March 2022 are used for direct charitable purposes.

11. Intangible Assets

Group and Charitable company	Software development £000	Total £000
Cost		
At 1 April 2021	147	147
Additions	-	-
At 31 March 2022	147	147
Accumulated Depreciation		
At 1 April 2021	147	147
Charge for the year	-	-
At 31 March 2022	147	147
Net book value at 31 March 2022	-	-
Net book value at 31 March 2021	-	-

12. Investments

Subsidiaries

The following are the operating subsidiary undertakings in which the charitable company has an interest:

Subsidiary Undertaking	Registration Number	Country of registration	Principal activity	Class and percentage of shares held
John Innes Enterprises Limited	02549904	England	Contract research	100% ordinary shares
Norwich Biosciences Limited	03076575	England	Management of intellectual property	100% ordinary shares
Norwich Research Limited	02814101	England	Dormant	100% ordinary shares
JIC NRP Capital Limited	06145922	England	Member of Anglia Innovation Partnership LLP	100% ordinary shares

The registered address for all the subsidiaries is John Innes Centre, Norwich Research Park, Colney, Norwich, NR4 7UH.

The charitable company's investment in subsidiary undertakings at cost amounts to £1,248 (2021: £1,248) and accumulated impairment of £244 (2021: £244) has been recognised against cost.

JIC NRP Capital Limited is a member of Anglia Innovation Partnership LLP (formerly Norwich Research Partners LLP), which is responsible for the management and development of the Norwich Research Park (NRP) estate and for the furtherance of the NRP Enterprise Vision. The company did not trade during the year.

The net income from trading activities of the subsidiaries during the year is shown in note 7.

Associates

The charitable company has an investment in Plant Bioscience Limited ("PBL"), a company registered in England and Wales, representing 33% (2021: 33%) of the ordinary £1 issued share capital. Plant Bioscience Limited manages the intellectual property rights of the charitable company and other organisations. This company is deemed to be an associate of the group and has therefore been included in the consolidated financial statements on that basis.

The charitable company has a 25% interest in NBI Partnership Limited ("NBIP"). NBIP supplies support and administrative services to JIC and the other Norwich Institutes (Quadram Institute Bioscience, Earlham Institute and The Sainsbury Laboratory) on a not-for-profit basis. NBIP fully recharges its costs to the four research organisations and accordingly it generates no profit or loss.

The charitable company has an investment of 45% voting share capital and £1,630,000 non-voting share capital in Leaf Systems International Ltd ("LSI"). LSI is a commercial research & development company specialising in the expression and production of proteins, metabolites and complex natural products. The value of JIC's investment in LSI has been fully written down at March 2022 and March 2021 to reflect the early stage of LSI's development and current trading position.

12. Investments (continued)

Investments – Company

The movement in the value of investments during the year was as follows:

	Total 2022	Total 2021
	£000	£000
Valuation		
At beginning of year	1	1
Acquisition	-	-
Impairment	-	-
At end of year	1	1
Historical cost		
As at 1 April 2021 and 31 March 2022	1,631	1,631

Investments – Group

The Group's share of the operating results of associates was as follows:

Group	Leaf Systems International	Plant Bioscience Limited	Total 2022	Leaf Systems International	Plant Bioscience Limited	Total 2021
	£000	£000	£000	£000	£000	£000
Associates, share of:						
Turnover	-	1,237	1,237	207	1,007	1,214
Operating (loss)/profit	-	261	261	(212)	215	3
Movement in opening balance	-	-	-	(33)	(114)	(147)
Share of result for the year	-	261	261	(245)	101	(144)

The Group's investment in associates is represented as follows:

Group	Leaf Systems International Limited	Plant Bioscience Limited	Total 2022	Leaf Systems International Limited	Plant Bioscience Limited	Total 2021
	£000	£000	£000	£000	£000	£000
<i>Associates: Share of net assets</i>						
At beginning of year	-	1,650	1,650	-	1,549	1,549
Additions	-	-	-	-	-	-
Impairment provision	-	-	-	245	-	245
Share of result for the year	-	261	261	(245)	101	(144)
At end of year	-	1,911	1,911	-	1,650	1,650
<i>Represented by:</i>						
Share of total assets	-	2,590	2,590	1,503	2,161	3,664
Share of total liabilities	-	(679)	(679)	(1,503)	(511)	(2,014)
Share of net assets	-	1,911	1,911	-	1,650	1,650

The Trustees consider the value of investments included in the financial statements to be supported by their underlying assets. The value of the investment in Leaf Systems International Limited has been fully written down, reflecting the net deficit position of the company at 31 March 2021 and 2022. JIC has no liability to contribute to losses in the company.

13. Stocks

Group and charitable company	Total 2022 £000	Total 2021 £000
Raw materials and consumables	283	258
Total	283	258

There is no material difference between the valuation of stock and its replacement cost.

14. Debtors

	Note	Group 2022 £000	Group 2021 £000	Company 2022 £000	Company 2021 £000
<i>Grants receivable:</i>					
from government bodies	23	4,219	6,332	4,219	6,332
from other sources		2,467	2,614	2,467	2,614
Trade debtors		1,465	873	1,297	816
Amounts owed by other related parties	23	1,054	1,253	1,054	1,253
Other debtors		961	467	934	436
Prepayments and accrued income		3,115	5,899	3,114	5,899
Total amounts falling due within one year		13,281	17,438	13,224	17,392

Grants receivable from government bodies includes £4,219,127 in relation to capital funding receivable from BBSRC (2021: £4,544,189).

15. Cash at Bank and in Hand

	Group 2022 £000	Group 2021 £000	Company 2022 £000	Company 2021 £000
Cash at bank	42,945	45,212	42,765	45,007
Cash in hand	3	3	3	3
Total	42,948	45,215	42,768	45,010

16. Creditors: Amounts Falling Due within One Year

	Note	Group 2022 £000	Group 2021 £000	Company 2022 £000	Company 2021 £000
<i>Grants received in advance:</i>					
from government bodies	23	6,285	5,640	6,285	5,640
from other sources		4,576	6,028	4,493	6,016
Trade creditors		3,475	4,792	3,464	4,791
Amounts owed to subsidiary undertakings		-	-	-	-
Amounts owed to other related parties	23	1,107	1,274	1,107	1,274
Other creditors		1,838	2,304	1,829	2,304
Taxation and social security		369	361	369	361
Accruals and deferred income		7,962	13,014	7,948	13,014
Total amounts falling due within one year		25,612	33,413	25,495	33,400

17. Reconciliation of Movement in Grants Receivable

Group and charitable company		Total 2022	Total 2021
	Note	£000	£000
Grants receivable	14	6,686	8,946
Grants received in advance	16	(10,861)	(11,668)
Net grants received in advance		(4,175)	(2,722)
<hr/>			
Net grants received in advance at beginning of year		(2,722)	(5,809)
Grant monies received during the year		(49,564)	(43,334)
Grant money released to SOFA during the year		48,111	46,421
Net grants received in advance		(4,175)	(2,722)

18. Provisions for liabilities and charges

Group and charitable company	Total 2022	Total 2021
	£000	£000
Restructuring provision at beginning of year	284	284
Charge in the year	-	-
Utilised	-	-
Provision at end of year	284	284

The restructuring provision relates to future compensation payments due under the redundancy scheme in connection with the restructuring of science programmes and the administration and support functions. Although the restructuring provision has not been discounted, it is stated at the present value of future amounts payable since inflationary increases linked to the redundancy settlements have similarly been excluded from the provision.

19. Analysis of Net Assets Between Funds

	Fixed assets £000	Net current assets £000	Creditors over one year and provisions £000	Total 2022 £000
Group				
<i>Unrestricted:</i>				
Fixed assets reserve	7,663	-	-	7,663
Designated capital reserve	-	12,118	-	12,118
General	-	6,671	(284)	6,387
<i>Restricted:</i>				
General reserve	-	794	-	794
Fixed assets reserve	62,607	-	-	62,607
Designated capital reserve	-	11,317	-	11,317
Revaluation reserve	34,724	-	-	34,724
Net assets	104,994	30,900	(284)	135,610
Charitable company				
<i>Unrestricted:</i>				
Fixed assets reserve	5,752	-	-	5,752
Designated reserves	-	12,118	-	12,118
General	-	6,551	(284)	6,267
<i>Restricted:</i>				
General reserve	-	794	-	794
Fixed assets reserve	62,608	-	-	62,608
Designated reserves	-	11,317	-	11,317
Revaluation reserve	34,724	-	-	34,724
Net assets	103,084	30,780	(284)	133,580

19. Analysis of Net Assets Between Funds (Continued)

	Fixed assets £000	Net current assets £000	Creditors over one year and provisions £000	Total 2021 £000
Group				
<i>Unrestricted:</i>				
Fixed assets reserve	7,994	-	-	7,994
Designated capital reserve	-	12,645	-	12,645
General	-	7,550	(284)	7,266
<i>Restricted:</i>				
General reserve	-	48	-	48
Fixed assets reserve	57,742	-	-	57,742
Designated capital reserve	-	9,255	-	9,255
Revaluation reserve	23,832	-	-	23,832
Net assets	89,568	29,498	(284)	118,782
Charitable company				
<i>Unrestricted:</i>				
Fixed assets reserve	6,344	-	-	6,344
Designated reserves	-	12,645	-	12,645
General	-	7,312	(284)	7,028
<i>Restricted:</i>				
General reserve	-	48	-	48
Fixed assets reserve	57,980	-	-	57,980
Designated reserves	-	9,255	-	9,255
Revaluation reserve	23,832	-	-	23,832
Net assets	88,156	29,260	(284)	117,132

The unrestricted fixed assets reserve relates to the net book value of fixed assets purchased from unrestricted funds. The restricted fixed assets reserve relates to the net book value of fixed assets purchased from capital grants.

The designated capital reserves are not endowment funds. The unrestricted designated capital reserve relates to funds designated by Governing Council for use in relation to planned capital investments in the financial projections to March 2028. The restricted capital reserve relates to funding received from BBSRC to be used in connection with future estates rebuild costs with the agreement of BBSRC.

The restricted general reserve relates to ring fenced strategic funding received from BBSRC. This funding has performance conditions attached and is transferred to the general reserve once the conditions have been met.

20. Analysis of Funds Movements

	Unrestricted fixed assets	Unrestricted designated capital	Unrestricted general	Restricted general	Restricted fixed assets	Restricted designated capital	Revaluation reserve	Total 2022
	£000	£000	£000	£000	£000	£000	£000	£000
Group								
At 1 April 2021	7,994	12,645	7,266	48	57,742	9,255	23,832	118,782
Total income and expenditure for the year	-	-	274	(605)	6,254	-	-	5,923
Associates	261	-	(261)	-	-	-	-	-
Revaluation of tangible assets	-	-	-	-	(1,118)	-	12,023	10,905
Revalue depreciation transfer	-	-	-	-	1,131	-	(1,131)	-
Capital transfers	(624)	-	-	(36)	660	-	-	-
Centre funded capital	32	(300)	268	-	(2,062)	2,062	-	-
Other transfers	-	(227)	(1,160)	1,387	-	-	-	-
At 31 March 2022	7,663	12,118	6,387	794	62,607	11,317	34,724	135,610
Charitable company								
At 1 April 2021	6,344	12,645	7,028	48	57,980	9,255	23,832	117,132
Total income and expenditure for the year	-	-	159	(633)	6,017	-	-	5,543
Revaluation of tangible assets	-	-	-	-	(1,118)	-	12,023	10,905
Revalue depreciation transfer	-	-	-	-	1,131	-	(1,131)	-
Capital transfers	(624)	-	-	(36)	660	-	-	-
Centre funded capital	32	(300)	268	-	(2,062)	2,062	-	-
Other transfers	-	(227)	(1,188)	1,415	-	-	-	-
At 31 March 2022	5,752	12,118	6,267	794	62,608	11,317	34,724	133,580

20. Analysis of Funds Movements (Continued)

	Unrestricted fixed assets	Unrestricted designated capital	Unrestricted general	Restricted general	Restricted fixed assets	Restricted designated capital	Revaluation reserve	Total 2021
	£000	£000	£000	£000	£000	£000	£000	£000
Group								
At 1 April 2020	9,834	9,488	6,775	344	51,749	10,024	21,713	109,927
Total income and expenditure for the year	-	-	(908)	2,926	2,107	-	-	4,125
Associates	(144)	-	144	-	-	-	-	-
Revaluation of tangible assets	-	-	-	-	-	-	4,730	4,730
Revalue depreciation transfer	-	-	-	-	2,611	-	(2,611)	-
Capital transfers	(755)	-	-	(111)	866	-	-	-
Designated capital transfers	-	360	-	-	(660)	300	-	-
Centre funded capital	(941)	(535)	1,476	-	1,069	(1,069)	-	-
Other transfers	-	3,332	(221)	(3,111)	-	-	-	-
At 31 March 2021	7,994	12,645	7,266	48	57,742	9,255	23,832	118,782
Charitable company								
At 1 April 2020	9,305	9,488	6,442	344	50,984	10,024	21,713	108,300
Total income and expenditure for the year	-	-	(659)	2,916	1,845	-	-	4,102
Revaluation of tangible assets	-	-	-	-	-	-	4,730	4,730
Revalue depreciation transfer	-	-	-	-	2,611	-	(2,611)	-
Capital transfers	(2,020)	-	-	(111)	2,131	-	-	-
Designated capital transfers	-	360	-	-	(660)	300	-	-
Centre funded capital	(941)	(535)	1,476	-	1,069	(1,069)	-	-
Other transfers	-	3,332	(231)	(3,101)	-	-	-	-
At 31 March 2021	6,344	12,645	7,028	48	57,980	9,255	23,832	117,132

The revalue depreciation transfers have been made to reflect differences in the historical cost and revalued depreciation costs.

Capital transfers relate to fund movements in connection with fixed assets and depreciation; ensuring assets are appropriately reflected in separate reserves.

Centre funded capital transfers relate to capital expenditure funded from the unrestricted designated capital reserve and general reserve.

Where research at JIC is funded by grants with performance conditions attached to them these are shown in the Restricted general fund. When the conditions have been met the remaining contribution to core funding is transferred to general reserves, shown in other transfers above.

21. Commitments

Group and charitable company	Total 2022	Total 2021
	£000	£000
Capital commitments at the end of the financial year for which no provision has been made:		
Contracted	5,031	7,388
Amounts due under other operating leases for plant and machinery:		
Expiring in less than one year	36	39
Expiring between one and two years	32	36
Expiring between two and five years	16	51
	84	126

22. Pension Schemes

JIC staff that joined before 1 October 2011 were employed by BBSRC up to 1 October 2017, when they transferred employment to the Institute under TUPE.

Transferred employees retain their membership of the Research Councils Pension Scheme (RCPS), where applicable, with JIC becoming an admitted employer in the scheme. The RCPS is a defined benefit scheme funded from annual grant-in-aid on a pay-as-you-go basis. The RCPS Pension Scheme is a multi-employer scheme and JIC is unable to identify its share of the underlying assets and liabilities. JIC therefore accounts for the scheme as if it were a wholly defined contribution scheme. As a result, the amount charged to the income and expenditure account represents the contributions payable to the scheme in respect of the accounting period. Liabilities for the payment of future benefits are the responsibility of the RCPS and accordingly are not included in these Financial Statements. The employer contribution rate during the year was 26% (2021: 26%).

JIC employees that joined after 30 September 2011 are eligible to join a defined contribution scheme.

The total pension charge for the year was £1,981,615 (2021: £2,018,661), with outstanding contributions at the year-end of £97,907 (2021: £85,997).

23. Related Party Transactions

BBSRC

JIC is strategically funded by BBSRC. Grants received from BBSRC are detailed in note 2. At 31 March 2022, BBSRC owed JIC £3,954,455 (2021: £1,683,074).

During the year BBSRC paid JIC £nil (2021: £nil) compensation for redundancy and salary costs incurred in restructuring and £nil (2021: £6,447) for other costs.

Plant Bioscience Limited

PBL is 33% directly owned by JIC. PBL has been accounted for as an associate within the consolidated financial statements. Services provided to JIC by PBL in the year to 31 March 2022 amounted to £43,200 (2021: £22,468). During the year, PBL paid JIC £38,755 (2021: £38,194) in rent and £nil (2021: £81) for other costs. At 31 March 2022 and 31 March 2021 no amounts were due to or from PBL.

Leaf Systems International Limited

JIC has invested £1,630,000 in the non-voting share capital of Leaf Systems International Limited. LSI has been accounted for as an associate within the consolidated financial statements. JIC paid LSI £nil (2021: £41,808) for services in the year ended 31 March 2022. At 31 March 2022, JIC owed LSI £3,287 (2021: £nil). JIC has provided a short-term loan to LSI. Interest is payable on the loan at 2.5%. At 31 March 2022, JIC had a loan balance with LSI of £112,500 (2021: £75,000).

During the year, LSI paid JIC £11,796 (2021: £10,529) for costs incurred by JIC on behalf of LSI. At 31 March 2022, LSI owed JIC £902 (2021: £3,049).

NBI Partnership Limited

JIC is one of the four guarantors of NBI Partnership Ltd ("NBIP"), a company limited by guarantee. JIC has provided short-term loans to NBIP to enable NBIP to manage its cash requirements. Interest is payable on the loan at 2% and during the year JIC charged £6,760 (2021: £6,840) in respect of interest due. At 31 March 2022, JIC had a loan balance with NBIP of £338,000 (2021: £342,000).

JIC was charged £4,579,554 (2021: £4,544,642) for services by NBIP under a cost sharing agreement. As at 31 March 2022, JIC owed NBIP £555,188 (2021: £570,160). NBIP paid JIC £62,315 (2021: £57,863) for services and, as at 31 March 2022, NBIP owed JIC £53,487 (2021: £7,804).

Anglia Innovation Partnership LLP

JIC is a member of Anglia Innovation Partnership LLP through its 100% subsidiary, JIC NRP Capital Limited. Anglia Innovation Partnership LLP is responsible for the management and development of the Norwich Research Park (NRP) estate and for the furtherance of the NRP Enterprise Vision.

During the year, JIC received services totalling £22,535 (2021: £18,445), and was charged £71,595 (2021: £81,292) for estate costs. As at 31 March 2022, JIC owed AIP LLP £30,078 (2021: £144,253). JIC invoiced Anglia Innovation Partnership LLP for services totalling £198,259 (2021: £76,013). As at 31 March 2022 Anglia Innovation Partnership LLP owed JIC £86,937 (2021: £15,306).

23. Related Party Transactions (continued)

University of East Anglia

UEA is a member of the charitable company and it nominates one Governor to the Governing Council.

The majority of PhD students carrying out research at JIC are registered with UEA. During the year UEA provided student services of £386,306 (2021: £732,359) and other services amounting to £233,518 (2021: £151,194) to JIC. At 31 March 2022, JIC owed UEA £339,676 for student fees and other costs (2021: £490,840) and £81,755 for other services (2021: £66,575).

During the year, JIC received £364,215 (2021: £625,588) in student payments from UEA and provided £187,042 (2021: £344,370) of other services. At 31 March 2022, UEA owed JIC £396,012 (2021: £752,134) for student fees and services.

John Innes Foundation

JIF is a member of the charitable company and it nominates one Governor to the Governing Council of JIC. The following transactions took place during the year:

	Total 2022	Total 2021
	£000	£000
<i>Paid to JIC:</i>		
Grants for studentships	436	390
Grants for research project	142	92
Contribution to salary costs	39	12
Contribution to women of the future	3	2
Contribution to field trials station	133	64
	753	560

At 31 March 2022, JIF owed JIC £66,533 (2021: £57,485) and JIC owed JIF £96,904 (2021: £2,005).

John Innes Enterprises Ltd

JIE Ltd is the wholly owned trading subsidiary of JIC. JIE undertakes contract research, research services and consultancy.

During the year, JIC invoiced JIE for services and other costs totalling £346,370 (2021: £339,149) and JIE invoiced JIC for costs totalling £11,179 (2021: £46,426). In addition, JIE made a gift aid payment to JIC of £30,118 (2020: £198,939). In addition, JIE made a gift aid payment to JIC of £9,521 (2021: £30,118). As at 31 March 2022, JIE owed JIC £139,120 (2021: £41,773).

Norwich Biosciences Ltd

Norwich Biosciences Ltd is the wholly owned trading subsidiary of JIC. NBL manages intellectual property on behalf of JIC. During the year NBL paid JIC a gift aid payment of £19,634 (2021: £93,796).

24. Cash Held as Grant Co-Ordinator

JIC holds cash of £1,038,116 (2021: £1,251,087) on behalf of various institutes in its capacity as project co-ordinator on a number of projects. JIC acts as an intermediary only and does not control the risks and rewards associated with the cash. An equal balance is held in other creditors.

25. Ultimate Parent Undertaking and Controlling Party

The Trustees consider that there is no ultimate parent undertaking and controlling party. JIC is the parent undertaking of the smallest and largest group of undertakings to consolidate these financial statements.

26. Contingent Liability

JIC receives grant income from funding bodies, such as the BBSRC and the European Union, that routinely undertake retrospective financial audits of costs claimed. Such audits may from time to time give rise to adjustments to grant income receivable. No general provision is made for such potential audit adjustments in the financial statements.

Charity information

Directors and Trustees

Sir T Hughes-Hallett	Chair – Governing Council
Mr J H Innes	Chair – Audit Committee
Ms J K Midura	Chair – Remuneration & Nominations Committee
Prof J C Murrell	
Prof N Talbot	
Prof J P Armitage	Chair – Science and Impact Advisory Board
Prof J Vincent	
Mr C Maw	
Dr C A Caulcott	

Director of the Institute Prof G Moore

Key Management Personnel

Prof G Moore
Prof M Banfield
Prof A Osbourn
Prof B Wilkinson
Dr C Stevenson
Prof L Ostergaard
Prof A Maxwell
Mr D Foreman
Mr B Morrison
Ms A O'Halleron
Dr S Aspland
Dr E Sharpe

Registered charity number 223852

Registered company number 00511709

Registered office and principal office of the charity

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