



Annual Report Volume XXXIV

1 July 2023 – 30 June 2024



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Cover photograph: Dr Laurie Friday, Director, Prof Frank Kelly, Chair and Dr Gemma Burgess, Director Elect. Credit: Jenny Hayward Report designed by **www.dangould.co.uk**, printed by Minuteman Press, Cambridge

Welcome to the Isaac Newton Trust's thirty-fourth Annual Report

A great deal has changed since I introduced the previous Annual Report. Not the least, the Trust has a new Director, and I have been privileged to hand over the responsibility – and the many delights – of leading the Trust to my successor, Dr Gemma Burgess.

Many of you will know Gemma from her roles as Vice-Master of St Edmund's College and Director of the Cambridge Centre for Housing and Planning Research in the Department of Land Economy, both of which she will continue in parallel with her new role at the Trust. Gemma brings to the Trust a depth of knowledge and understanding of the intersecting worlds of departments and colleges and an appreciation of research needs across the collegiate University, all of which will be invaluable in taking the Trust into its next phase as a Registered Charity. I wish Gemma the very best for her tenure as Director.

Reflecting on the past nine years, I realise the depth and strength of support that the Trust enjoys from many quarters. At the risk of borrowing from Isaac Newton ("if I have seen further, it is by standing on the shoulders of giants"), I think it safe to say that if the Trust has been instrumental in enabling the work of the University, this is because of input from many individuals across the collegiate University who understand the specifics of Cambridge's research ecosystem and where the challenges lie. In particular, the INT benefits from the wise advice and clear thinking of an extraordinary group of dedicated Trustees.

I am deeply appreciative of the support and wise advice of the Chairs, Lord Robert Mair and Professor Frank Kelly, and the many Trustees, past and present, all of whom give their time freely to steer the Trust's grant-giving activities and to take major decisions on policy. During this time, Trustees have firmly established the INT as a champion for early career post-doctoral researchers in Cambridge, while exploring new avenues for widening participation and supporting students and researchers affected by COVID. It has been extremely heartening to see how the Trust's new programmes have been embraced by researchers, departments and Colleges alike.

Through all this, we have enjoyed the enabling support of Trinity College, and I would particularly like to thank Sir Greg Winter and Dame Sally Davies, who as successive Masters of Trinity have offered wise counsel and encouragement; Senior Tutor, Professor Catherine Barnard; Senior Bursars, Rory Landmann and Richard Turnill; Executive Director of Alumni Relations & Development, Bill O'Hearn; the College Council; and all the staff of the College. Long may this positive and constructive partnership thrive.

Finally, my warmest personal thanks are due to the staff of the INT who have been the best of colleagues. They have applied their individual skills with great effect to improve the way the Trust's grant programmes work, have enthusiastically embraced new ideas and enacted many changes. Nichola, Donald, Janet and Katie: if the Trust is now in a good place, this is largely down to your good-natured hard work on its behalf. Thank you for your support and friendship.

Finally, I would like to thank you all for your kind collaboration over the years. I hope you will enjoy reading this Report.

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Dr Laurie Friday Director 2015-2024

WHAT WE DO

The Isaac Newton Trust, Registered Charity no. 1209261, was established as a Trust in 1988 by Trinity College. The Trust promotes learning, research and education in the University of Cambridge, primarily by providing support to early career researchers and by making research grants to departments and programmes within the University and its constituent Colleges.

WHO WE ARE

PATRON

The Trustees were delighted to learn in May that His Majesty the King would be continuing his patronage of the Isaac Newton Trust. Since its foundation, the Isaac Newton Trust has enjoyed the patronage of His Majesty, who chaired the first meeting of the Trustees on 22 November 1988 when he was the Prince of Wales.



OFFICERS & STAFF



Dr Laurie Friday, N Director



Miss Katie Barnes Deputy Trust Administrator



Mr Donald Hearn, CL Treasurer



Ms Janet Sparrow Research Administrator



Dr Nichola Tooke Trust Administrator

TRUSTEES 2023-24



Professor Frank Kelly Mathematics, CHR (Trustee, Chair)



Professor Dame Ann Dowling Engineering, SID



Professor John Marenbon Philosophy, T



Professor Dame Jean Thomas Biochemistry, CTH



Professor Ash Amin Geography, CHR



Professor Loraine Gelsthorpe Criminology, PEM



Professor John Pyle Chemistry, CTH



Professor Nicholas Thomas Museum of Archaeology and Anthropology, T



Professor Sir David Baulcombe Plant Sciences, T



Professor Rae Langton Philosophy, N



Professor Ben Simons Physics, JN

Details of the Trustees' interests, including other Trusteeships, may be found on the INT's website: **https://www.newtontrust.cam.ac.uk**/.

SUMMARY OF NEW GRANTS AWARDED 2023-2024

The Trust committed **£4.3m** for research and scholarship in the University including:





25 Research Grants to individual researchers



56 Grants for research projects jointly with the Schools of the University



25 Leverhulme Early Career Fellowships



3 INT/College Junior Research Fellowship



4 Research Grants made to support work delayed by COVID



1 Strategic Grant for a major project







INT AWARDS 2023 -24

RESEARCH GRANTS: PROJECT, EMERGENCY & STRATEGIC GRANTS

Applications were invited in three categories:

Project Grants

- one call per annum, in Michaelmas Term;
- awards of up to £30k over periods up to three years:
- normally for the support of a specific project under the leadership of a named Principal Investigator (PI);
- offering initial partner funding for new research projects, grants for unconventional, innovative forms of research and scholarship;
- normally awarded for research associates' salary costs but may include small contribution to consumables or equipment;
- particular attention is given to the qualities of the research project, on which we seek advice from external and internal referees, but consideration is also given to the likely benefits of a grant to the Department, PI, and/or early career researchers involved.

Emergency Grants

- three rounds per annum (termly), to respond rapidly and flexibly to cases of need;
- awards of up to £30k over a period of up to12 months;
- normally for a named research associate in cases for which short-term immediate intervention is needed;
- bridging or underwriting salary costs up to the start of a new grant;
- providing start-up costs for a pilot ahead of a major grant application;
- meeting a funding deficit in an external competitively-awarded early career fellowship (Fellowship support).

Strategic Grants

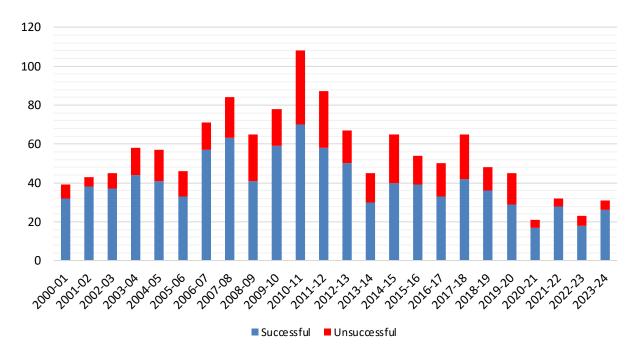
- preliminary round (Lent Term); full applications by selected applicants (Easter Term);
- one or more awards of up to a total of £500k for up to 5 years duration;
- for major projects endorsed by a Head of School or Pro-Vice Chancellor as being of strategic importance to the University;
- awards may be to a Department, Faculty, School or a non-School institution;
- this year, the Trustees agreed to consider applications for renewal of ongoing strategic programmes alongside applications for new projects.

In 2022-23, Trustees committed **£1m** to new grants across these three categories:

Financial year	2023-24	2022-23	2021-22	2020-21	2019-20	2018-19	2017-18
Research Grants	£1m	£0.62m	£1.1m	£0.46m	£1.1m	£2.1m	£3.0m

Project and Emergency Grants

The number of applications for new projects has recovered slightly from the planning blight created by the lockdown in 2020, however, the maximum award (£30k) is generally small compared to the overall cost of a project and necessarily requires applicants to find additional funding from other sources. INT is, however, seeing an increasing number of requests for very short term 'emergency' bringing grants to tide key researchers over to the start of new grants. The success rates for these emergency grants is high but there is still no obvious recovery in the numbers of applications; the trajectory of the number of applications and successes over the past 23 years is shown in Figure 1.



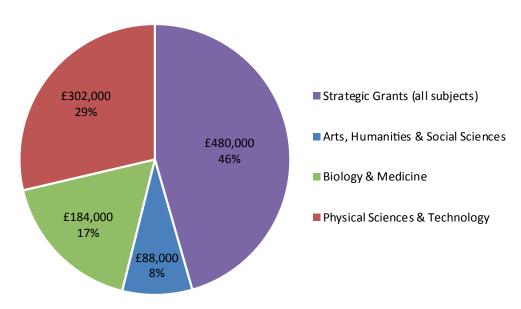


Strategic Grants

The demand for Strategic Grants of up to £500k however, continues to be strong, with four applications this year for major grants, and one selected.

The distribution of the total value of awards between Strategic Grants (all subjects) and Project/Emergency Research Grants in each of the three main subject areas (Arts, Humanities & Social Sciences; Biological and Medical Sciences; and Physical Sciences & Technology) is shown in Figure 2:





PROJECT AND EMERGENCY GRANTS AWARDED IN 2023-24

Grants related principally to COVID relief.

Schools of Arts, Humanities and Social Sciences

Archaeology (Prof Cameron Petrie)

Mapping Archaeological Heritage in South Asia 100% salary support for the project's 2 Research Assistants for 3 months

Asian & Middle Eastern Studies (Prof Geoffrey Khan) Judaeo-Arabic medicine of the Cairo Genizah re-Told, re-Written Matched funding of a Rothschild Fellowship (24 months)

History & Philosophy of Science (Prof Anna Alexandrova) Building policy relevant scientific indicators: the case of the World Inequality Report

100% salary support for the project's Research Associate for 7 months

Schools of Biological Sciences and Clinical Medicine

Biochemistry (Prof Chris Howe)

Enhancing and Redirecting Cyanobacterial Electron Flow 100% salary support for the project's Research Associate for 1 month

Cambridge Institute for Medical Research (Prof Alan Warren)

Somatic genetic rescue of a germline ribosomopathy 100% salary support for the project's Research Associate for 6 months

Genetics (Dr Felipe Karam Teixeira)

Transposable elements and the forces driving genome evolution 60% salary support for the project's Research Associate for 7 months

Haematology (Prof Simón Méndez-Ferrer)

Targeting cholinergic signalling in graft-versus-host disease after allogeneic haematopoietic stem cell transplantation 50% salary support for the project's Research Associate for 12 months

Haematology (Dr Simon Richardson)

Characterisation of how PAX5 loss promotes the initiation and evolution of B-cell Acute Lymphoblastic leukaemia 100% salary support for the project's Research Associate for 5 months

Medicine (Dr Xuan Li)

The role of tubulin carboxypeptidases in cardiomyocytes after myocardial infarction 50% salary support for the project's Research Associate for 1.5 months and contributions to consumables

Pathology (Dr Catherine Merrick) *Establishing a regenerative therapeutic for heart failure* Salary support for the project's Research Associate for 5 months

Pharmacology (Prof Catherine Wilson) *Establishing a regenerative therapeutic for heart failure* 100% salary support for the project's Postdoctoral Technician for 8 months

Physiology, Development and Neuroscience (Dr Hannah Clarke)

Non-human primate investigations into hippocampal-prefrontal interactions and cognitive dysfunction relevant to schizophrenia

25% salary support for the project's Research Associate for 12 months

Physiology, Development and Neuroscience (Prof Ewa Paluch) Investigating the mechanics of cell division in vivo in 2D and 3D 74% salary support for the project's Research Associate for 8 months

Plant Sciences (Dr Lucas Palma Perez Braga) Can permafrost-released viruses infect present-day plants? 70% salary support for the project's Research Associate for 10 months

Wellcome – MRC Stem Cell Institute (Prof Ragnhildur Thóra Káradóttir) *Bidirectional regulation of myelin plasticity by neuronal activity* 60% salary support for the project's Research Associate for 12 months

Schools of Physical Sciences & Technology

Centre of Business Research (Prof Simon Deakin) *Changes in Labour Laws Around the World and their Economic Significance* 100% salary support for the project's Research Associate for 4 months

Chemistry (Prof Bronstein)

Next-Generation Ligands Turn Triplets Bright to Solve Quantum Dot Energy Transfer Matched funding for Ramsay Trust Fellowship

Chemistry (Pro Collepardo-Guevara)

What Determines the Viscoelastic Properties of Phase Separated Chromatin Condensates? 100% salary support of project's Research Associate

Chemistry (Prof Erwin Reisner)

Nitrogenase-modified hierarchical electrodes for photo-electroenzymatic nitrogen fixation 100% salary support for the project's Research Associate for 6 months

Earth Sciences (Dr Oscar Branson)

Physiology of Marine Calcifying Organisms under Extreme Conditions Supporting the purchase of equipment to facilitate physiological analyses

Engineering (Prof Michael De Volder)

Indoor light energy harvesting and storage devices for internet of things applications 100% salary costs for the project's Research Associate for 6 months

Geography (Prof Marc Macias Fauria)

Environmental Information from 19th & 20th Centuries Polar Cartography: digitising the SPRI Archives 100% salary support for the project's Research Associate for 3 months

Material Science & Metallurgy (Dr Giuliana Di Martino)

Unveiling Vortices Dynamics in Superconductors using NanoPlasmonics Supporting 50% of the project equipment costs

Physics (Prof Siân Dutton)

Electrochemical Impedance Spectroscopy facility for controlled temperature and gas measurements Supporting project facility costs

Physics (Dr Helena Knowles) *Multimodal nanoscale quantum sensing in vivo* 95% salary support for the project's Research Associate for 6 months and contributions to consumables

STRATEGIC GRANTS AWARDED IN 2023-24

Education (Prof Anna Middleton) *Kavli Centre for Ethics, Science and the Public* 100% salary costs for two Research Associates and an annual research cost contribution



The Kavli Centre for Ethics, Science, and the Public. Credit: Annual Report 2023



Without the INT funding to cover the core post-doctoral staff who are able to pivot immediately to delivering outputs, we would not have been able to action our strategy as quickly as we have.

The Kavli Centre for Ethics, Science and the Public offers a heartfelt thank you to the Isaac Newton Trust for the trust and faith that has been offered for our work.

Professor Anna Middleton, Director of the Kavli Centre

RESEARCH GRANTS: JOINT PROGRAMMES WITH THE SCHOOLS

Since 2014, the Isaac Newton Trust has committed a substantial proportion of its annual research expenditure to three 'Joint Schools' Programmes in which the Trust's donation is matched by the University, Schools, Departments, and, until recently, a contribution from the Wellcome Trust Institutional Strategic Support Fund (ISSF).

Annual calls are managed by pairs of Schools (Arts & Humanities/Humanities & Social Sciences, Biological Sciences/Clinical Medicine, and Physical Sciences/Technology). The selection of applicants for support is carried out by subject panels appointed by the Schools, and as such the funding is targeted in a more strategically informed manner than the Trustees could achieve through their own Research Grants programme.

In the Arts, Humanities and Social Sciences, these grants go some way towards levelling up and maximising the impact of research in these subjects. They do this through creating opportunities to build collaborative networks, engage in public dissemination and make compelling cases for the REF.

In STEM subjects, these Joint grant schemes provide targeted support to early career researchers at the critical point when they are establishing their independence and so enable the most talented individuals to develop their research ideas. Over the years, these grants have enabled the creation of a large number of PDRA positions and represent an enabling investment that has yielded a many-fold return in external funding.

The INT reviews these programmes annually in March in the context of other applications for major grants under the Strategic Grants programme.

Schools of Art & Humanities and Humanities & Social Sciences

(Cambridge Humanities Research Grants)

The Cambridge Humanities Research Grants scheme (CHRG) supports research in the arts, humanities and social sciences across the University. The Scheme is designed to enable researchers to conduct small-scale research activities, of the highest quality, that will enable them to bid successfully for larger-scale funding from external sponsors, and/or to generate publications, and/ or to contribute materially in other ways towards the research objectives of their home institution. Awards of £1.5K to £20k are available.

The Trust contributed £50,000 for 2023-24.

Awards made from the CHRG fund	2023-24	2022-23	2021-22	2020-21
Number	40	46	24	33
Total value of awards from all sources	£345K	£248k	£259k	£419k

Following a review of this programme by the Trustees, this programme will operate in a different way for 2024-25. A further contribution of **£75k** has been approved for 2024-25.

Schools of Biological Sciences and Clinical Medicine

When initially set up, this programme was funded from three sources, each providing £250k p.a. - the Isaac Newton Trust, the Wellcome Trust's Institutional Strategic Support Fund (ISSF) and the host department of the successful applicant. However, the ISSF ended in 2022 and the two Schools did not seek further INT support for 2022-23.

The two Schools reviewed their needs and proposed a new model for the future, with each School targeting the area in which additional funding would be most enabling for their early career researchers:

- the School of Biological Sciences will offer start-up grants;
- the School of Clinical Medicine wishes to bridge researchers to their next grant.

In both cases, the awards to each researcher would potentially run for two years.

In March 2023, the Trustees agreed to make an award of £125,000 to each School, to be disbursed as described above, to start in 2023, a total expenditure of **£250k**.

BIOLOGICAL SCIENCE

Awards made from the Fund	2023-24
Number	5
Total value of awards from all sources	£249k

CLINICAL MEDICINE

Awards made from the Fund	2023-24
Number	6
Total value of awards from all sources	£250k

The Trustees agreed in March 2024 to make awards of £125,000 to each School, a total expenditure of £250k.

Schools of Physical Sciences and Technology

Awards for new lecturers of up to £55k are made by the two Schools' joint panel for postdoctoral Research Associate support. The individual awards typically run for up to two years.

Awards made from the Fund	2023-24	2022-23	2021-22	2020-21	2019-20
Number	5	9	4	9	7
Total value of awards from all sources	150K	£241k	£95k	£233k	£156k

In March 2024, a further contribution of £150k was agreed for 2024-25.

EARLY CAREER FELLOWSHIPS

The INT's single largest contribution to research in the collegiate University is achieved through its programme of Early Career Fellowships (ECFs) (see Figure 3).

Co-funding with other charities and with Faculties and Colleges provides a highly effective means of recruiting and retaining the very best postdoctoral researchers, supporting them as they develop their independent research projects and launching them into careers at academic and research institutions around the world. The INT's ECF programme not only builds the intellectual capital of the University and Colleges, but it attracts external funding that approximately matches the contribution of the Trust.

The INT has established a notable record for match-funding, on behalf of the University, Cambridge Fellows selected in the UK-wide **Leverhulme Trust's ECF** competition (p 17). However, our activities range more widely into Europe, providing the institutional contribution required for the **Humbolt Foundation's Feodor Lynen ECFs** (p. 20), and enabling 6-month extensions for **Swiss Science Foundation ECFs**.

The **INT Academic Career Development Fellowships** launched in 2022 have proved to be a great success and we expect this model to become a key element in the INT's ECF programmes over the next few years (see p. 16).

The Isaac Newton Trust takes an active lead in providing support for our Early Career Fellows through our **Fellows' Association**: those who do not already have a College attachment are assisted in finding a way into a Cambridge College community.

We also organise Fellows' events and were delighted to hold a garden party at Trinity College in June 2024. It was an opportunity to introduce our new Deputy Trust Administrator, Katie Barnes and the Director-elect, Dr Gemma Burgess, to meet old friends and to network with the new cohort of Fellows.

We look forward to holding some Fellows' events in the future.





INT Fellows' Garden Party at Trinity College June 2024. Credit: Jenny Hayward.

Introducing our new Early Career Fellows starting in 2023-24



Ahmed Abozaid Sociology



Vean Al-Saka Asian and Middle Eastern Studies



Christian Anderson Divinity



Estara Arrant University Librar



Marine de Clerck Applied Mathematics and Theoretical Physics



Federica De Lazzari MRC Mitochondrial Biology Unit



Kieran Gilfoy Politics and International Studies



Zora Hauser Criminology



Tristan Hynes Psychology



Luis Junqueira History and Philosophy of Science



Lisa Kelsey Astronomy



Sun Woo Kim Materials Science and Metallurgy



Tianjun Liu Physics



Chemistry



Ziyu (Claude) Liu Law



Rayssa Martins Pimentel Earth Sciences





Linfeng Pan Chemical Engineering and Biotechnology



Alice Pearson Centre for Research in Arts, Social Sciences and Humanities

Emmanuela Wroth Music



Thomas Powell Davies Social Anthropology



McNeil Taylor Modern and Medieval Languages and Linguistics



Mariëtta Van der Tol Divinity



Zhiwu Wei Land Economy



Alice Wickenden English

Academic Career Development Fellowships & Junior Research Fellows



Jerry Chen ACDF Land Economy





Sally Raudon ACDF Social Anthropology



Juliana Santos de Carvalho* ACDF Gender Studies



Rebecca Heath JRF Economics



*Dr Santos de Carvalho commenced her ACDF during 2023-24



INT ACADEMIC CAREER DEVELOPMENT FELLOWSHIPS (ACDFs)

The Isaac Newton Trust launched a new model for Early Career Fellowships in the Arts, Humanities and Social Sciences at Cambridge that would enable Early Career Researchers to develop the skills and experience needed for an academic career during 2021-22. The initial driver for this activity was the recognition that a number of Faculties and Departments were struggling to cover their teaching needs while many Colleges were similarly unable to secure teaching cover and directing studies in some of the smaller subjects. It was also evident that the routes available to Early Career Fellows had become increasingly polarised into 'teaching' or 'research' steams, and that some junior College teaching officers lacked a formal base in a Faculty and equally, that many Faculty-based researchers and teaching assistants lacked College connections.

INT 'Academic Career Development Fellowships' (ACDFs) have at their heart a three-way partnership between the Trust, a Faculty or Department in the Arts, Humanities or Social Sciences, and one (or perhaps two) Colleges. The INT pledges 40% of the Fellow's salary costs to protect their research time; the Faculty funds 30% to cover teaching and provides subject-based mentorship; the partner College provides 30% of the salary to cover supervision and Directing of Studies up to 80 hours per annum and also offers a suitable College affiliation or Fellowship. The Fellow holds co-terminous contracts in the University and the College and is line managed by the Head of Faculty and Senior Tutor as appropriate to the activity being undertaken.

The programme has been greatly aided by the School of Humanities & Social Sciences in identifying Faculties for the support of their teaching, but otherwise the non-INT costs have been met from philanthropy.

On the strength of the pilot year, the programme opened up to all Colleges and subjects in Arts, Humanities and Social Sciences with ten appointments being made to date including three new partnerships created during 2023-24:

Dr Siyabonga Njica	History	Lucy Cavendish*
Dr Jerry Chen	Land Economy	Queens'
Dr Natash Raudon	Social Anthropology	Hughes Hall*

*INT is providing the college supplement minus the cost of 80 hours' teaching per annum at the hourly rate.

The total cost of these new awards to INT is expected to be approximately **£252k**, and the Trustees have agreed to fund four more ACDFs for 2025-26.

Trustees have been delighted to learn that two ACDFs to date have secured permanent lectureships well before the end of their appointments (St Andrews University, UK and the University of Utah, USA).

LEVERHULME EARLY CAREER FELLOWSHIPS

The Isaac Newton Trust's commitment to providing the necessary institutional match-funding for Leverhulme Early Career Fellowships (LECFs) is one of the Trust's longest-standing and most successful contributions to the academic training of the next generation of researchers. Our support for this programme over the past 17 years represents one of the Trust's main contributions to building up the intellectual capital of the University.

Each year, the INT co-ordinates an internal competition to identify the very best scholars wishing to conduct postdoctoral research in Cambridge. The selection of candidates for promises of matching funding to satisfy the entry requirements for the national competition is carried out by subject-specific academic panels nominated by the Schools. Successful candidates are provided with a guarantee from the INT of salary support to match the Leverhulme Trust's contribution for up to three years should they be selected in the Leverhulme Trust's national competition.

Results of the 2024 competition (previous year's figures provided in parenthesis)

The Leverhulme Trust received 700 (755) applications in the national competition and offered 147 (145) awards this year, across the full range of subjects, (apart from Clinical Medicine), of which 25 (12) were made to applicants supported by offers of matching funding from the INT to carry out research in Cambridge; over twice the amount of awards compared with the previous year.

Of the new LECFs, 15(4) are in the Arts, Humanities and Social Sciences – a significant increase on the previous year, 6(2) in Physical Sciences & Technology and 3(5) in Biological Sciences.

The Leverhulme Trust actively encourages mobility between institutions and is unlikely to fund a candidate who has spent his or her entire academic career at the same University. However, as is often the case, a number of our new LECFs are already members of the University of Cambridge. Of the incoming cohort of new LECFs:

- Twelve are recent alumni of Cambridge University or post-docs in Cambridge;
- The other Fellows come from: the European University Institute, Federal University of Santa Catarina, Newcastle University, Paris Nanterre University, Simon Fraser University, University of Oxford, University of Portsmouth, University of Queensland, University of Southampton and the University of Toronto

Our record of support for Leverhulme Early Career Fellows

The INT started supporting Leverhulme Early Career Fellowships in 2007. It began in a small way, with contributions to four fellowships in the Arts, Humanities and Social Sciences, and has grown steadily as the INT has extended its support to other subjects. Fifteen cohorts have now received our support and the total cost to the INT constitutes a very large proportion of our annual expenditure.

Over the past decade, the number of LECFs awarded for research at Cambridge has grown as the number awarded nationally has increased. Since 2012, Cambridge has typically obtained 10 - 15% of the national awards. Cambridge has an exceptional record for securing LECFs across all subjects, consistently ranking highest among UK institutions for the number of awards secured in STEMM subjects and in the top three for Arts, Humanities and Social Sciences. INT secured its highest ever number of LECFs this year with 25 awards.

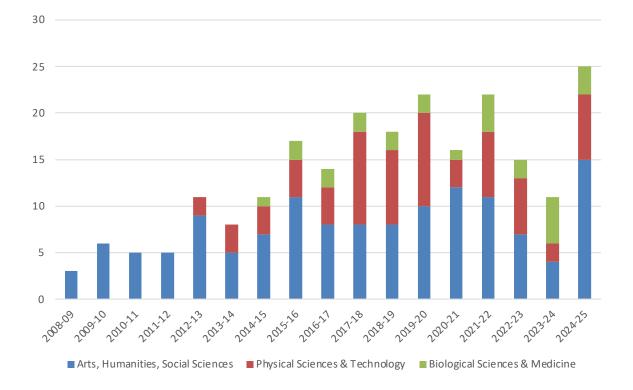
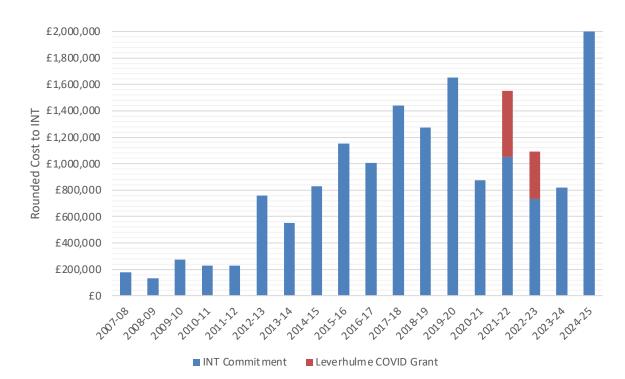


Figure 3: Numbers of Leverhulme Early Career Fellows with INT matched funding, by subject area, for the cohorts starting in the year shown:

The Isaac Newton Trustees have agreed that no candidate should be disadvantaged if the host department does not have funds to meet this shortfall between the maximum award and the actual salary costs. The INT has therefore guaranteed to meet the shortfall if the host department demonstrates that it cannot do so.

The Trustees have continued to employ the support of the bequest made by Mr Brian Shiers Lowe, which Trustees have ear-marked to support one LECF each year for up to four cohorts.





School of Arts and Humaniti	es & School of School of t	he Humanities and Social Sciences	i
Nik Patek-Sargeant	Archaeology	Max Skjönsberg	History
Samuel Lunn-Rockliffe	Archaeology	Harriet Fagerberg	HPS
Ashleigh Wiseman	Archaeology	Sebestian Kroupa	HPS
Monica Nicolaides Ramsey	Archaeology	Sofia Gotti	History of Art
Avital Rom	AMES	Hooi May Hen-Smith	Law
Nicholas Posegay	AMES	Daria Mattingly	MMLL
Edward Zychowicz-Coghill	AMES	Doriane Zerka	MMLL
Michael Loy	Classics	Maria Rojo Carrillo	Music
II-Kweon Sir	Classics	Peter Asimov	Music
Tobias Müller	CRASSH	Jacob Olley	Music
Dominic Walker	CRASSH	Nathan Cofnas	Philosophy
Alexandra Wigzell	Criminology	Cathy Mason	Philosophy
Farah Ahmed	Education	Lorna Dillon	POLIS
Lloyd (Meadhbh) Houston	English	Jaakko Heiskanen	POLIS
Jess Cotton	English	Timothy Cooper	Social Anthropology
Olga Petri	Geography	Kelly Fagan Robinson	Social Anthropology
Gianamar Giovannetti-Singh	History	Christina Woolner	Social Anthropology
Jesús Sanjurjo Ramos	History		

Our Leverhulme/INT Early Career Fellows resident in 2023-24 were:

School of the Biological Sciences & School of Clinical Medicine				
Godwin Aleku	Biochemistry	Xuan Liang	PDN	
Guillermo Najera	Genetics	Carlos Gantner	PDN	
Toby Buttress	Gurdon Institute	Facundo Romani	Plant Sciences	
Alexis MacIntyre	MRC CBSU	Maxime Fouyssac	Psychology	
Abigail Bradshaw	MRC CBSU	Lucia Marti-Prats	Psychology	
Robert Mok	MRC CBSU	Alan Wanke	Sainsbury Laboratory	
Vasiliki Mavridou	Pharmacology	Gabriel Jamie	Zoology	
Anne Janssen	Pharmacology			

School of the Physical Sciences & School of Technology				
Rajesh Bhagat	DAMTP	Lefan Wang	Engineering	
GyuChul Myeong	Astronomy	Miri Zilka	Engineering	
Jiachen Jiang	Astronomy	Thomas Albrow-Owen	Engineering	
Simon Kahmann	CEB	Michael Rule	Engineering	
Lin Su	Chemistry	Lauren Davies	Geography	
Sam Cobb	Chemistry	Jan Behrends	Physics	
Kadi Saar	Chemistry	Alexander Gillett	Physics	
Zoltan Taracsak	Earth Sciences	Rene Poncelet	Physics	
Tim Greenfield	Earth Sciences	Amir Asadi	PMMS	

AMES = Asian & Middle Eastern Studies CEB = Chemical Engineering & Biotechnology CRASSH = Centre for Research in the Arts, Social Sciences & Humanities CST = Computer Science & Technology DAMTP = Department of Applied Mathematics & Theoretical Physics

HPS = History and Philosophy of Science MMLL = Modern & Medieval Languages & Linguistics MRC CBSU = MRC Cognition & Brain Sciences Unit PDN = Physiology, Development& Neuroscience PMMS = Pure Mathematics & Mathematical Statistics POLIS = Politics and International Studies



HUMBOLDT FOUNDATION FEODOR LYNEN EARLY CAREER FELLOWSHIPS

The Humboldt Foundation's highly competitive Feodor Lynen Early Career Fellowships are held in leading Universities globally under the guidance of a Humboldt Fellow. The INT makes a contribution of £1,000 per month for up to 24 months for any candidate who secures a Feodor Lynen Fellowship for research in the University of Cambridge.

Two Humboldt INT Early Career Fellows were in residence in 2023-24:

Fellow	Department	start	end
Dr Fabian Berger	Chemistry	Oct 23	Sep 25
Dr Hannah Kurz	Chemistry	Oct 22	Sep 24

No new applications were approved during 2023-24.

INT/COLLEGE JUNIOR RESEARCH FELLOWSHIPS

Isaac Newton Trust/College Junior Research Fellowships provide £20,000 per year for three years towards stipendiary Junior Research Fellowships in the Arts, Humanities and Social Sciences. Since 2019, the Trust has also offered contributions of £3,000 per annum towards the cost of non-stipendiary JRFs in STEMM subjects.

Each College may have only one stipendiary and one non-stipendiary INT/College JRF at any one time. There is one round annually, in June/July. Selection of the Fellow is then a matter for the College, which is expected to apply the usual stringent academic criteria.

Eligibility is limited to those Colleges exempt from making a contribution to the University under Statute G, Chapter II. The list is published annually, and in 2023-24 comprised: Clare Hall; Darwin; Downing; Fitzwilliam; Hughes Hall; Lucy Cavendish; Murray Edwards; Robinson; St Edmund's, Selwyn and Wolfson.

Five stipendiary and three non-stipendiary Newton Trust/College JRFs were in post during 2023-24:

College	JRF	Faculty/Department	start	end
Lucy Cavendish	Dr Rihab Khalid	Architecture	Oct 20	Dec 23**
Robinson	Dr Matthew Simpson	Philosophy	Oct 20	Sep 23
Fitzwilliam	Dr Caitlin Harvey	History	Oct 21	Sep 24
Lucy Cavendish	Dr Colleen Drapek	Plant Sciences*	Oct 21	Sep 24
Murray Edwards	Dr Moataz Assem	MRC CBSU*	Oct 21	Sep 24
Clare Hall	Dr Giulia Maltagliati	Classics	Oct 22	Sep 25
Fitzwilliam	Dr Anke Arentsen	Astronomy*	Oct 22	Sep 25
Robinson	Dr Oliver Wilson-Nunn	Latin American Studies	Oct 23	Sep 26

*non-stipendiary **granted a 3-month COVID extension

Rebecca Heath (Economics) has been appointed to a Stipendiary INT JRF at Fitzwilliam College in October 2024.

Colleges' competition for JRF funding starting in October 2023

In view of the dwindling number of applications from Colleges for this programme in recent years, the Trustees had agreed with effect from the May 2024 round that awards could be advertised in a specific topic to avoid colleges being burdened with a very large number of applications from across a complete spectrum of subjects in the Art, Humanities and Social Sciences.

The Trustees were pleased to receive three applications for the 2023-24 JRF competition (for recruitment in October 2025) from Clare Hall (stipendiary award), Murray Edwards College (stipendiary award) and Fitzwilliam College (non-stipendiary award). All three applications were approved at a total cost of £129k.

STUDENT AWARDS

The Trust has maintained a long-term commitment to providing competitive research scholarships to the best of the UK and EU students, many of whom have been unable to secure funding from public sources such as the Research Councils. The Trust does not itself award these scholarships but directs funding through existing University competitions. The Trust does not provide salary or research costs for students other than through these established major funding programmes.

PhD Studentship programmes

The Trust's support of the AHRC Doctoral Training Programmes (DTPs), 2014-19 and 2019-26 enables six 3-year studentships per annum (at half cost) for students whose College is not a participant in the shared funding arrangements.

WIDENING PARTICIPATION & INDUCTION FUND

The new programme set up in 2022 to support Widening Participation and Induction has completed its second full year of operation in 2023-24. This Fund, established with additional funding from Trinity College, is intended to enable the ambitions of Colleges to expand and diversify their activities with prospective and incoming undergraduate students from disadvantaged backgrounds.

Suitable projects might include developing subject interests at younger age ranges, encouraging applications to Cambridge or other leading universities among Year 12 students; or working with offer-holders and incoming students to build up their subject knowledge or study skills in preparation for university study. This year has seen some extremely innovative proposals, including a highly innovative collaboration with Homerton College featuring escape rooms.

The total funding available over the duration of the programme is £1.3m, and the intention is that the programme should run for three full annual cycles. A pilot round with a budget of £100k was held in July 2022, and up to £400k is available in each academic year thereafter. There are two rounds annually in February and June.

All Colleges are eligible; they may apply singly or in partnership with other Colleges or institutions within the University. A maximum of £50k is available to any one College in any given year.

A Sub-Committee of the Isaac Newton Trust, comprising experienced admissions professionals from across the collegiate University, oversees the programme, assesses the applications and advises the INT:

Professor Loraine Gelsthorpe (Isaac Newton Trustee, Chair) Mr Tom Levinson (Head of Widening Participation & Regional Collaboration, CAO) Dr Glen Rangwala (Tutor for Admissions, Trinity College) Dr Michael Sunderland (Senior Tutor – Trinity Hall) Dr Emily Tomlinson (Co-Chair of the Admissions Forum) The Director of INT is also in attendance

	June 2022	Feb 2023	June 2023	Feb 2024	June 2024	Total to date
Applications received	9	9	7	8	25	58
Number of awards	6	9	6	8	23	51
Grants awarded	£101,024	£124,099	£117,917	£165,855	£331,105	£840,000

The Sub-Committee received 25 applications for their last meeting of the year in June. It was felt that this marked increase was due to more people getting to know about the programme and a call specifically targeting Schools' Liaison Officers in Colleges.

"

What participants (teachers and students) have said about INT-supported WPIF programmes:

I just wanted to express my heartfelt gratitude for organising the escape room event for our students. It was an incredible experience that allowed students to bond, solve puzzles, and have a great time together. Your efforts in creating an inclusive and supportive learning environment are truly commendable.

I really enjoyed it as well, very impressive to be able to provide such a large, visually engaging and well thought out activity on the road! Feedback from students that I've spoken to has been overwhelmingly positive, and it would be great to have you back again (or come to you) in the future.

The highlight of my week was interacting with people studying different subjects from all over the UK and being able to collaborate and build such an amazing thing that I'd never have had the opportunity to do outside this programme.





TRUST POLICIES AND FINANCES

In deciding who and what to fund, and to what extent, the Trustees continue to hold to the following general principles:

- promote excellence in research and scholarship;
- respond flexibly to emerging needs;
- help new projects get off the ground, committing to individual projects for no more than 5 years, and reviewing ongoing programmes at intervals;
- prioritise early career researchers, helping to nurture and grow the University's intellectual capital;
- assist the University to secure funding from outside sources wherever possible.

The Trustees' overall financial management policy is to ensure that Trinity College's donations are used to their full potential. Following a series of Strategic Reviews, undertaken since 2015, three key approaches have been established:

- · investing unspent income appropriately and spending the resulting income;
- holding sufficient reserves to cover our forward commitments in the event that all sources of income ceased, but otherwise making full use of donated income for the support of research in the University;
- budgeting to bring our reserves and forward commitments into balance.

Audited accounts 2023-24

	2023-24	2022-23	2021-22	2020-21	2019-20
Opening reserves	£5,121,373	£4,387,701	£4,510,748	£3,045,317	£3,543,790
Income	£2,730,674	£3,068,051	£2,621,139	£1,772,028	£1,846,009
*Expenditure	£4,059,062	£2,348,980	£2,478,535	£1,612,750	£2,372,123
Gain (Loss) on investments	£348,749	£14,601	-£265,656	£1,306,153	£27,641
Closing reserves	£4,141,734	£5,121,373	£4,387,695	£4,510,748	£3,045,317

For full details see: https://www.newtontrust.cam.ac.uk/about/Accounts

*Expenditure includes new commitments during the year taking into account unused funds written back and refunded (see below), plus administration costs.

Two main features stand out from our financial headline figures this year:

- because of the unexpected success in the Leverhulme Early Career Fellowship competition, the Trustees have had to commit £2m to support Fellowship salary costs¹.
- a continued small gain on investments following the considerable loss in 2021-22 and small gain in 2022-23.

¹ The Trustees have taken decisions which will help control the cost of future cohorts to the Isaac Newton Trust and encourage more diverse forms of support from the Collegiate University

Resource management

Since 2015, Trustees have had a policy of maintaining our assets at a level to cover all our forward commitments in the event of our income ceasing, plus a margin that would enable Trustees to respond to new and compelling opportunities. The initial phase of reducing our investments through a programme of large grants has now come to an end and there is a balance between assets and commitments. Trustees also have an additional requirement to hold total assets at above £10m at the end of the financial year for the purposes of investment in CUEF (see below). We have now reached the point at which we are not planning to reduce our investments further; there were no withdrawals from the CUEF in 2023-24 or the previous year.

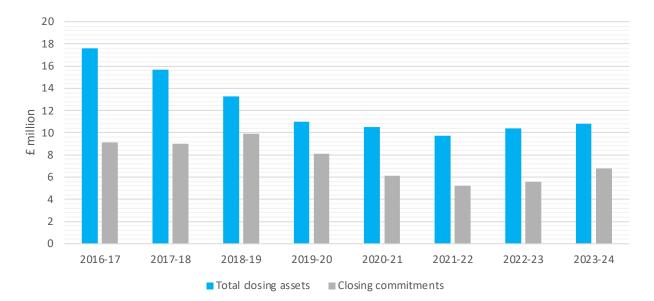


Figure 5: Assets (Investments + bank) & Commitments carried forward at Year End

Trustees budget for new research commitments in line with predicted income (Figure 6) and review the allocations to different categories of grant expenditure annually in March, when it is clear what the actual income and demand is likely to be for the financial year.

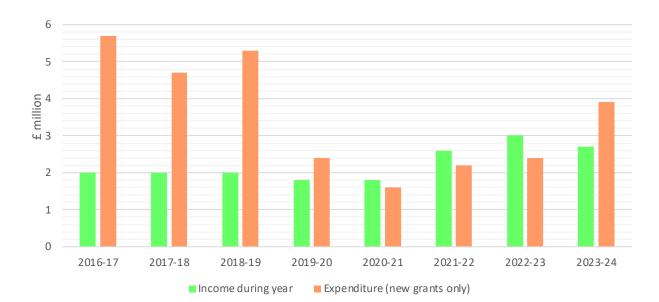
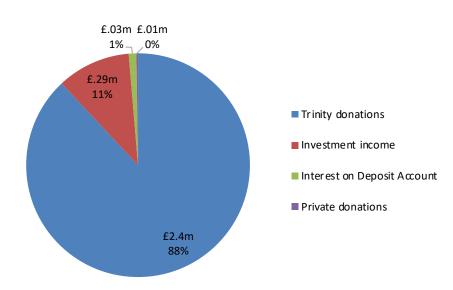


Figure 6: Income & Expenditure (new grants only)

Income 2023-24

Total income in 2023-24 was £2.7m

Figure 7: Income 2023-24



The Trinity donation (**£1.5m**) is the Trust's main source of income. In 2023-24, the College's Expenditure Committee again provided an additional grant to help to stabilise the Trust's finances; this year an additional **£500k** was provided.

Trinity also provided funds earmarked for Widening Participation & Induction grants, amounting to **£400k**. The total income from Trinity for 2023-24 was therefore **£2.4m**.

Of our other income, the majority normally arises from the investment of past donations, and so comes indirectly from Trinity. Our income from investments increased to **£294k** this year (£272k 2022-23). Other private donations to the Trust through Trinity amounted to **£6.5k** including Gift Aid. Our bank deposit account yielded **£30k** in interest. INT also received a small payment of **£238** from the exploitation of intellectual property generated by INT grants in 2023-24.

Expenditure 2022-23

Total Expenditure in 2023-24 was **£4m** and comprised new research grant commitments plus administrative costs (including write-backs and refunds):

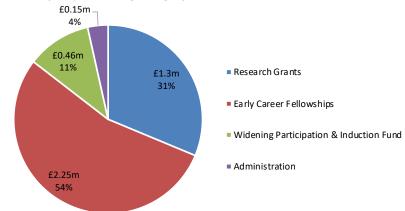
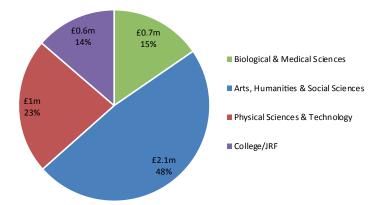


Figure 8: Expenditure by major funding category 2023-24

Figure 9 New grants: subject areas and College grants 2023-24



Note that Figure 9 records actual commitments without write-backs and refunds.

At the end of this year, the Trust carried **forward commitments** totalling **£6.8m** (£5.6m in 2022-23).

Expenditure and forward commitments are accounted for including write-backs and refunds:

Write-backs of unused portions of grants account for a significant reduction in commitments carried forward from year to year. The Trust wrote back £393k in 2023-24 (£354k in 2022-23), principally from Early Career Fellowships where the holders succeed in securing another grant or post before the scheduled end date. Trustees decide at their last meeting of the financial year (March) whether to recommit some of these write-backs;
Refunds from the residue of completed projects amounted to £293k in 2023-24 (£183k in 2022-23).

Expenditure	2023-24	2022-23	2021-22	2020-21	2019-20
staff salaries, pensions, NI	£104,518	£98,862	£95,302	£91,705	£98,090
rent, services, miscellaneous	£17,711	£8,208	£15,146	£13,871	£9,924
governance, audit, accounts	£23,246	£11,582	£9,877	£8,851	£10,044
Total	£145,475	£118,652	£120,326	£114,427	£118,058

Administration accounted for 4% of our total expenditure:

Investment Strategy

The Trust's investment portfolio is placed in the Cambridge University Endowment Fund (CUEF), whose performance is reviewed periodically by the Trust's Investment Sub-committee. The Trustees' agreed primary objective is to aim to achieve a total return of at least CPI inflation plus 5% with the additional requirement that the portfolio be invested in a socially responsible manner. We have attended regular meetings with CUEF and are pleased to report that major progress is being made towards a net zero portfolio by 2038.

The Trust continues to meet the requirements for an investor in CUEF to hold more than ± 10 m in Cash and Investments in order to be recognised as a 'professional client' and therefore be eligible to invest in CUEF. At the end of year 2023-24 our total holdings were ± 7.5 m in investments, plus ± 3.3 m cash in the bank.

Trustees also sign a Comfort Letter in compliance with Anti Money Laundering (AML) requirements and are invited to declare any PEP relationships (ie with Politically Exposed Persons).

Fund-raising

The Isaac Newton Trust does not itself fund-raise but works with the Trinity's Alumni Relations and Development Office to facilitate donations to the Trust via the College, which then assumes responsibility for verifying the source of donations and management of donations, including, the collection of Gift Aid on our behalf.

As reported last year, INT received a benefaction from the estate of the late Brian Shiers Lowe (Trinity 1931), who died aged 108 in February 2022. This extraordinarily generous gift 'for the general purposes of the Trust' amounted to £369,138 and Trustees decided to use the funds for named fellowships for early career researchers.

The Trust warmly welcomes interest from alumni of Trinity and others who might wish to support the work of the Trust and encourages them to contact the College by visiting the Trinity donations website at https://www.trin.cam.ac.uk/alumni/isaac-newton-trust/.

Brian Shiers Lowe Fellowships



Brian Shiers Lowe's magnificent bequest to the Isaac Newton Trust has enabled the Trustees to create named Early Career Fellowships, appointing one new Fellow a year for four years. Dr Tom Powell Davies, who is Australian, has been elected to be the second Brian Shiers Lowe Fellow and will take up his Fellowship in the Department of Social Anthropology in October 2025.

Brian Shiers Lowe's nephew, Des Lowe lives in Australia and is hoping to meet Dr Tom Powell Davies who lives in Queensland before Tom moves to Cambridge to take up his Fellowship.

Governance

The Isaac Newton Trust was founded by Trinity College and receives almost all its income from the College. INT continues to work closely with Trinity: we provide our Annual Report for the scrutiny of the College Council, and we also report on our strategic plans to the College's Expenditure Committee ahead of their annual budgetary discussion, at which the donation to the INT for the coming year is determined.

The INT has, since 2010, claimed exemption under the Charities Act as a connected institution of the University. Over the past few years, the University's scrutiny has taken the form of a presentation of the Trust's Accounts and an overview of its policies and future direction to the University Finance Committee's Business Working Group. As part of this process, discussions have been had about the Trust's claim to exemption and the University's legal advice, which has been accepted by the Trustees, is that the INT should register as a charity in its own right. The Trust completed its application to become a charity in April. The application was approved in July.

During 2023-24, we have:

- undertaken a review of our Human Relations (HR) policy and procedures and recruited an HR consultant who is also employed by the University
- recruited an IT consultant who is also employed by the University
- arranged for payroll administration of our new staff to be outsourced to Pem Accounting's Payroll Team
- produced a Staff Handbook and compliant HR documentation in relation to recruitment and staff development
- recruited a Deputy Trust Administrator who took up post in April 2024
- recruited a new Director who took up post in October 2024

Auditors

Peters, Elsworthy & Moore were Auditors to the Trust for the financial year 2023-24. Our audited accounts may be found at: https://www.newtontrust.cam.ac.uk/about/Accounts



Dr Gemma Burgess, Director-Elect with INT Administrators, Dr Nichola Tooke and Miss Katie Barnes. Credit: Jenny Hayward.

AFTERWORD

I feel privileged, honoured and proud to be recruited to lead the Trust on the next stage of its journey. I am extremely grateful to Laurie, the Trustees and the Trust's administrative team to inherit such an effective and resilient going concern. The Trust became formally registered as a charity in its own right by the Charity Commission (Charity Number: 1209261) in July and its operation has been robustly reviewed and is all set for the new challenges and opportunities that lie ahead.

These include the Trinity Cambridge Research Students' programme which is launched as I write and seeks to promote research through grants for PhD studentships. It is funded jointly by our main donor, Trinity College, together with the University for a period of five years, each committing £2.4 million per annum. This innovative and important programme has been designed to address a growing concern that our ability to effectively pursue world leading research is being significantly hindered by the funding and nimble appointment of PhD students. TCRS seeks to leverage intellectual and financial support for research through research studentships in the University. INT's role will be to manage Trinity College's support to this important programme. Please see our website for further information.

My next project will be to direct the Trust's triennial strategic review where I will be working with the Trustees to evaluate the Trust's grant programmes. This review will be driven by the research needs of the University. I feel very excited about engaging with you about this and look forward to working with you in 2024-25!

G.B

Dr Gemma Burgess Director with effect from 1 October 2024

"

"We are pleased to confirm that our research titled 'Mitochondrial Complex I Activity in Microglia Sustains Neuroinflammation' is slated for publication in Nature ... We seize this opportunity not only to share our elation regarding the imminent publication but also to extend our deepest gratitude to Isaac Newton Trust for their unwavering support throughout the years".

"This grant has provided a starting point for a potentially very important line of research in my career."

"The grant has been transformational in enabling us to leverage the INT funds to purchase a 2.5MN hydraulic test machine with climatic capability (2.5MNCC). The machine is currently being manufactured and will be fully operational in 2024. Thereafter it is envisioned that the innovative large scale experimental research conducted on the 2.5MNCC will lead to a highly fruitful pipeline of publications and research proposals. "

"Overall my research resulted in nine papers that are currently under review or being revised for further review, plus one accepted paper... I am very grateful to the INT for their support."

"Indeed, getting this fellowship has been absolutely life-changing for me and I'm extremely grateful for it".

"I am genuinely grateful to the Trust for their support, It has been a wonderful experience supporting my time in Cambridge, giving me the time and space to pursue novel research concepts. In addition, the trust provided a network of fellows in a similar career position who were excellent colleagues to discuss research with, as well as how to progress our respective careers".

"I wish to express my heartfelt gratitude for the unwavering support and numerous opportunities I have received during my tenure at Cambridge. The experiences and knowledge gained here have been invaluable, shaping my academic journey in profound ways".

"it has been a wonderful experience, and I value being given the chance to meet and work with fascinating, engaged researchers and delve into a self-directed project that I felt was interesting, valuable, and fulfilling. Thank you for this opportunity: for supporting my application to Leverhulme and for giving me the chance to prove – to myself and others – the potential of a research area that I have devoted much time and energy into."

"Thank you very much for the support from the Leverhulme Trust. It has been instrumental in helping me secure this faculty position and advance to the next stage of my career."

"...my experience as CDF was extremely positive – it was invaluable and a highlight of my academic career so far! ... The Career Development Fellowship was invaluable in terms of securing my current permanent post ..."

"With the support of the Trust, we have built one of the largest and most exciting educational games in the country. The project is in a constant state of development, but we have delivered the game to around 800 students to date, and have bookings for at least another 400 students before July."

Thank you

The Isaac Newton Trust would like to extend its profound gratitude to Trinity College for its generous and impactful donation. Trinity's remarkable contribution has been instrumental in the advancement of innovative and academic excellence and groundbreaking research.

The Trust has also received donations from the following individual donors during the year. We are deeply grateful for their valued commitment to fostering research and discovery at Cambridge.

Professor P M Barrett Mr M J Brett Dr D S Chatterjee Dr J M Edwards Professor A J Elliott-Kelly Dr C A H Fisher Dr P W Forder Mr J H Fryer-Spedding CBE DL Mr J J Glickman Mr J B Goodbody Dr R S W Hawtrey Mr K E F Mullaley Mr R Prescott Mr L C Richdale Mr N J P Sherratt Mr I C Smart Mr B S Wessely



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