



THE GUY FOUNDATION

QUARTERLY REVIEW

March 2026

**Welcome to the 15th edition of the Quarterly Review,
a digest of The Guy Foundation and quantum biology news.**

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2026 SPRING SERIES ON MAGNETIC FIELDS AND BIOLOGY

We are very much looking forward to the start of The Guy Foundation 2026 Spring Series on Magnetic Fields and Biology this month! The series will explore the emerging field of magnetobiology and its significance for life, health, and medicine. The programme brings together researchers from biology, quantum physics and medicine, to examine how magnetic fields influence living systems, from fundamental mechanisms to real-world applications.



Professor Jonathan Woodward



Dr Brian Ross

The first session on 11 March will kick off with presentations from Professor Jonathan Woodward, University of Tokyo and Dr Brian Ross, The Quantum Biology Institute. This opening session will outline the conceptual foundations

of magnetobiology, introducing key mechanisms – such as the radical pair mechanism – by which magnetic fields interact with biological systems. The speakers will also discuss their own research on real world applications.



Professor Margit Egg



Professor Martyn A Sharpe



Kamran Ansari

Building on this, the second session on 25 March will turn to the therapeutic use of magnetic fields and will feature

talks by Professor Margit Egg, University of Innsbruck, Professor Martyn A Sharpe, Houston Methodist Hospital, and Kamran Ansari, Stanford University. Together, they will explore emerging evidence

that magnetic fields can modulate biological processes relevant to health and disease. The session will also address the translational potential of magnetically mediated diagnostics and therapies.



Professor Wendy
Beane

The focus will then shift, in the third session on Wednesday 22 April, to the experimental evidence for magnetic effects. This session will feature Professor Wendy Beane, Western Michigan University, whose work has played a central role in demonstrating magnetic-field effects on stem cell proliferation and differentiation, as well as regenerative processes.



Professor Massimo
Maffei

In the fourth session on Wednesday 6 May, Professor Massimo Maffei, Università di Torino, will present evidence for magnetic-field sensitivity in plants, highlighting how magnetic cues may influence growth, signalling pathways, and adaptive responses, and how these findings broaden the scope of magnetobiology beyond animal systems.

The series will conclude on Wednesday 20 May with a roundtable session summarising the major points raised in each presentation. Professor Alistair Nunn will give his insights on the implications of magnetobiology and why magnetic fields may be a subtle yet essential component of the biological environment. A better understanding of this subject seems increasingly important for science, medicine, and indeed areas such as space travel.

Videos of the talks will be available on our [website](#) and [YouTube channel](#). If you aren't already registered and would like to attend, please contact n.copping@theguyfoundation.org.

2025 AUTUMN SERIES ON LIGHT PROCEEDINGS

The Proceedings of the Guy Foundation Autumn Series on Light are now available to read on the Guy Foundation [website](#). This includes summaries by speakers Michal Cifra, Robert Fosbury, Richard Weller, Mohab Ibrahim, Alistair Nunn, Glen Jeffery and Roger Seheult, together with an overview of our special roundtable session, and a closing note from Geoffrey Guy giving his reflections on this fascinating series.

For those of you who missed it, the Autumn Series brought together a wide range of perspectives on how light interacts with life, from fundamental physics and quantum biology to cellular energetics, circadian biology, medicine, optimal health, and the built environment. We explored the biological significance of different wavelengths across the visible spectrum, as well as the roles of ultraviolet and infrared light, highlighting how spectral quality shapes biological responses at multiple scales. We also explored the health implications of modern buildings and lighting, which focus



on energy efficiency, resulting in LEDs that emit a very narrow range of wavelengths biased to the blue end of the spectrum and windows that screen out most of the infrared light thought to be beneficial for mitochondrial function.

Participants agreed that while energy-efficient lighting has delivered clear environmental gains, it has often come at the expense of biological considerations, and that meaningful progress will require closer collaboration between researchers, clinicians, architects, and engineers, alongside shifts in standards, technologies, and regulations that currently prioritise efficiency over biology.

As a result of the compelling evidence that highlighted some key issues of concern, The Guy Foundation has formed a working group who are preparing a report on light and health, and its implications for public policy and the built environment. We feel strongly that there is much to be achieved in this area and the lecture series has truly spurred us on. As a charity we are well placed to help lead and connect key groups and make real progress. We look forward to sharing our progress and we hope that you will be able to lend your support when we launch and promote the report. In the meantime, we would welcome anyone who could help with funding support for this important initiative. If you are able to lend your support, please contact n.copping@theguyfoundation.org.

NEW PAPER IN NATURE JOURNAL



Professor Alistair
Nunn

The Guy Foundation’s Director of Science Alistair Nunn got the year off to a great start, with the publication of his new paper **Are we trapped on Earth: space and accelerated ageing** in the journal *Nature npj Microgravity*. Alistair, along with co-authors Jimmy Bell and Geoffrey Guy, drew on his expertise in mitochondrial biology to examine the health effects of extra-terrestrial environments and the viability of long-term space travel. The paper addresses a sobering trend revealed by current research: space travel appears to trigger an Accelerated Ageing Phenotype (AAP), where an astronaut’s biological age begins to outpace their chronological years. This may be because life is being pushed outside its adaptive metabolic envelope, a biological “Goldilocks zone” refined over billions of years of Earth-bound evolution.

In the paper Alistair outlines how the origins of this rapid ageing may lie in the “stress of absence”. Much like a sedentary lifestyle on Earth causes premature ageing due to a lack of physical stimulation to maintain mitochondrial function and reserve, the total absence of Earth’s natural stressors – such as its gravity and electromagnetic fields – may be as damaging as the presence of cosmic radiation. This follows from the principle of hormesis, where biology suffers not just from too much of a stressor, but also from its total removal.

The paper also outlines the role that quantum biology plays in understanding space health as well as how mitochondria might act as the “metabolic canary in the coalmine”, quickly becoming dysfunctional when quantum and thermodynamic balances are thrown off. If our metabolism is fundamentally fine-tuned to Earth’s

unique electromagnetic and thermal environment, future deep-space travel may require us to either technologically replicate Earth's exact conditions – including artificial gravity and Earth's light spectra and magnetic fields – or turn to genetic manipulation to survive outside our evolutionary metabolic envelope.

NEW PODCAST WITH ALISTAIR NUNN AND MAX GULHANE



Some of you might remember, from our [2025 March Quarterly Review](#), that Geoffrey Guy and Alistair Nunn did two podcasts with Max Gulhane for his Regenerative Health series: ‘[Quantum Biology & the Future of Medicine](#)’ and ‘[Space Health, Magnetic Fields, Mitochondria & Quantum Biology](#)’. We were very pleased to then have Max join our 2025 Autumn Series on Light, as a roundtable speaker; you can watch the fascinating session [here](#). Alistair recently did [another podcast](#) with Max about why modern humans are ageing faster than ever. The discussion explored how modern humans are living in an environment radically different from the one our biology evolved to operate within. From the health effects of light to mitochondrial function, evolution, circadian biology, and bioenergetics, the conversation connected fundamental science to some of today's most pressing health challenges – including chronic disease, mental health, and longevity.

SPACE HEALTH PROGRAMME AND VISIT TO RAL SPACE

Space health has been in the spotlight this year with the unprecedented evacuation of four astronauts from the International Space Station due to a serious medical issue. Coupled with concerns about the health of astronauts Suni Williams and Butch Wilmore after their unexpected extended stay in space last year and the gathering momentum of the Artemis program – which will push humans beyond Earth’s protective magnetosphere – the evidence seems to suggest that it is vital we further our understanding of the physiological implications of space travel. Jimmy Bell, Scientific Advisor to The Guy Foundation and principal investigator, was recently asked by the Daily Mail to comment on the health risks of space travel. You can read the article [here](#).

The Foundation’s space health programme continues to grow, with the research team’s tour of RAL Space being a recent highlight.



Photo credit STFC

The Guy Foundation team at the Central Laser Facility, Harwell Science and Innovation Campus

The laboratory is situated on the Harwell Science and Innovation Campus, close to our Quantum Biology and Bioenergetics Laboratory at the Central Laser Facility, and is one of the major national research facilities operated by the Science and Technology Facilities Council (STFC). The team was fascinated to see the cutting-edge facilities that make RAL Space a hub for research and innovation on space and ground-based space projects. We were very grateful to RAL Space quantum research scientist Mark Bason for giving our team such an excellent tour and joining us for our Research Meeting. We look forward to further collaboration.



Photo credit STFC

Mark Bason (right) discussing with George Freeman (left) the science being undertaken in one of the labs at RAL Space

We are continuing to work closely with George Freeman FRSA to put together an International Space Health Research Collaboration (ISHRC), which we will launch later this year. This collaboration will work with agencies, companies, universities

and individual researchers and scientists to help harness and coordinate the collective efforts and to provide a multidisciplinary research facility that has the expertise to undertake vital novel research. If you would like to get involved, please contact [Nina Copping](#).

NEW PROJECT ON NEAR-INFRARED RADIATION

We are pleased to announce The Guy Foundation has awarded a donation towards a new study at University College London (UCL), investigating the importance of near-infrared (NIR) radiation on human well-being. This reflects the Foundation's deep interest in the role of light in living organisms, a theme we explored extensively in our 2025 Autumn Series on Light and one on which we are now preparing a report.



PhD student Khorshid Meihami

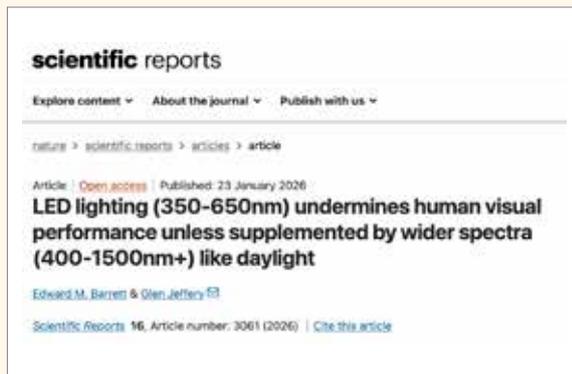
PhD student Khorshid Meihami, supervised by Dr Jemima Unwin Teji and Professor Glen Jeffery, is undertaking the project which will focus on individuals working in windowless office environments. By integrating continuous glucose monitoring with cognitive, visual, and mood assessments, the project will investigate whether 850 nm NIR light can actively improve

glucose metabolism, vision contrast, and sleep quality. By supplying evidence for the links between light, metabolic regulation and perceived well-being, the project supports the integration of biologically supportive NIR lighting into our workplaces and future space habitats.

BOOKS & PAPERS

JOURNAL CLUB

For this issue's journal club, Alistair Nunn and Betony Adams have picked four thought-provoking recent papers.



Glen Jeffery gave a fascinating presentation for The Guy Foundation's Autumn Series on Light, and we are pleased to see his new paper **'LED lighting (350-650nm) undermines human visual performance unless**

supplemented by wider spectra (400-1500nm+) like daylight' has been published in *Scientific Reports*. The study highlights a critical evolutionary mismatch: while life evolved under the broad-spectrum sunlight of 300–2500 nm, modern environments are dominated by restricted-spectrum LEDs (350–650 nm) that lack essential infrared wavelengths. The research suggests that exposure to excessive short-wavelength blue light dominant in LEDs can undermine mitochondrial respiration, whereas the deep red and infrared light found in sunlight – and absent in LEDs – actually boosts mitochondrial performance. By supplementing a standard LED office environment with broad-spectrum incandescent lighting for just two weeks, the researchers observed a significant improvement in the employee's visual colour contrast sensitivity that persisted for two months after the supplement was removed. These findings suggest that because mitochondria communicate systemically, the energy efficient light environments of modern

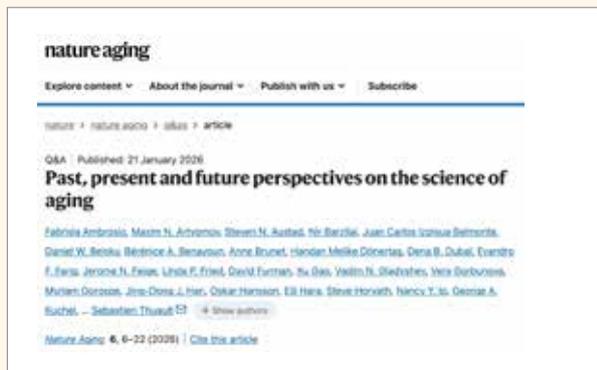
offices and clinics may be contributing to widespread metabolic dysfunction. Reintroducing broad-spectrum light into these spaces could offer a highly economical and non-invasive route to improving public health. You can watch Glen's talk on the Foundation's YouTube channel [here](#).



Speaking of mitochondria, Guy Foundation faculty James Lee recently published an intriguing paper '**Protonic capacitor cell energetics: transmembrane-electrostatically localized protons/cations**' in the

American Journal of Physiology-Cell Physiology. The paper presents a transformative framework for cell electrophysiology, where the biological membrane is modelled as a protonic capacitor. The hypothesis is that excess positive charges localised on one side of the membrane are balanced by localised hydroxide anions on the other, creating a capacitor-like storage of energy directly at the membrane interface. This theory solves long-standing bioenergetic puzzles, such as how alkalophilic bacteria synthesise ATP in high-pH environments and how mitochondria utilise certain thermotropic processes to isothermally convert environmental heat into useful work. Beyond bioenergetics, the model provides novel insights for neural transmembrane potential that complement Hodgkin-Huxley theory.

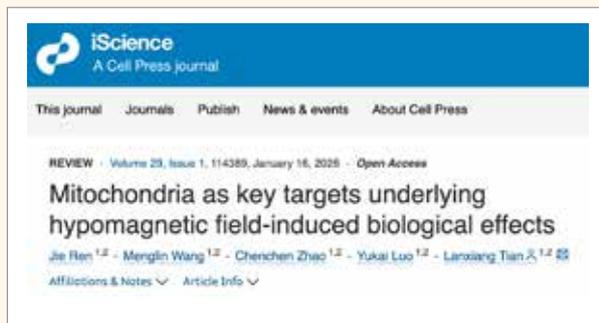
Ageing continues to be an emergent if not overt theme in many of our lecture series, with a recent discussion on the intersection of light and ageing in our Autumn Series. We were thus interested to see that, in celebration of its fifth anniversary, *Nature Aging* asked



leading ageing researchers, including David Furman, for their opinions on the field. David gave a presentation on space health and ageing for the Foundation's 2023 Autumn Series on Quantum biology and

space health; his talk can be viewed [here](#). The *Nature Aging* paper **'Past, present and future perspectives on the science of ageing'** documents the paradigm shift from viewing aging as a random process of decay to a quantifiable, programmatic interaction between development and environment. Key breakthroughs include the development of epigenetic clocks, which provide a readout of biological age, and partial cellular reprogramming, which suggests that cells retain a recoverable memory of youth. High-dimensional omics and single-cell studies have further revealed that ageing is highly heterogeneous across different organs, with the immune system emerging as a central orchestrator of systemic resilience and brain health. However, the panel noted a significant translational gap, where interventions that radically extend lifespan in standardised, stimulus-deprived laboratory models often show only modest or transient effects in the complex, diverse environment of human life. Moving forward, the experts emphasised the need for valid biomarkers, longitudinal human data, and a deeper understanding of the maximum lifespan barriers that differentiate us from shorter-lived species.

And finally, while Glen Jeffery's paper shows that mitochondria respond to light spectra, it seems they also respond to magnetic fields, as outlined in a recent paper, from the Biogeomagnetism Group at the Chinese Academy of Sciences.

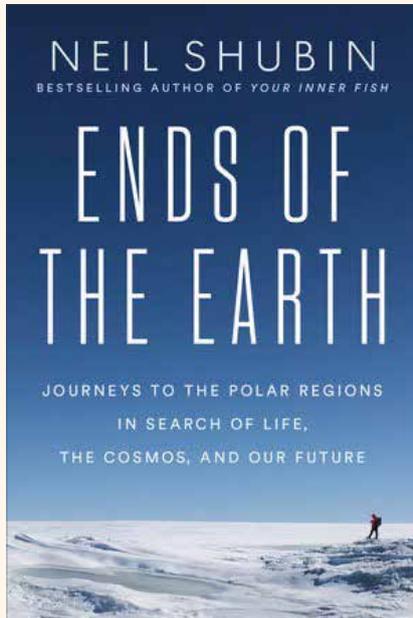


The review article, **‘Mitochondria as key targets underlying hypomagnetic field-induced biological effects’**, published in the journal *iScience*, suggests that

mitochondria are the primary and most sensitive targets of hypomagnetic fields, specifically identifying the electron transport chain as a direct site of disruption. The authors hypothesise that iron-sulphur clusters within the mitochondria may play a pivotal role in this sensitivity, acting as quantum-scale sensors that respond to the absence of Earth's magnetic signature. By disrupting mitochondrial quality control and metabolic signalling pathways, hypomagnetic field exposure contributes to neurological, cardiovascular, and musculoskeletal decline.

Understanding this disruption is now a critical foundation for developing the shielding and coping strategies necessary for survival on the Moon, Mars, and beyond. We are looking forward to addressing this question more comprehensively in our Spring Series on magnetobiology!

Book corner



For this issue's book corner Betony Adams reviews the recent book by Neil Shubin, *Ends of the Earth*, published in 2025.

ENDS OF THE EARTH: JOURNEYS TO THE POLAR REGIONS IN SEARCH OF LIFE, THE COSMOS, AND OUR FUTURE BY NEIL SHUBIN

Neil Shubin's *Ends of the Earth* begins with a chapter called 'Ice is Hot', a phrase that, for me, immediately recalled the Foundation's [2025 Spring Series on Water](#). Water, the substrate of terrestrial life, is unique in that it exists in all three phases – solid, liquid and gas – within the relatively narrow temperature range of Earth, with its optimal distance from the sun and protective atmosphere.

Water is a central theme in the book, and Shubin – a palaeontologist and evolutionary biologist – draws on his own Arctic and Antarctic adventures to illuminate how the polar regions, though frozen, are geologically and biologically alive, recording deep time while shaping the present, preserving evidence of ancient climates and magnetic fields; an active participant in

planetary processes. The poles emerge from the narrative not as remote wastelands but as natural laboratories – places where the structure of ice, the networks of oceans, and the rhythms of glaciation reveal both the fragility and resilience of life on Earth as well as the possibility of life on different planets.

The book is informative without being pedantic, mixing personal anecdote with rigorous scientific explanation. It is well worth the read for anyone interested in how water has shaped our terrestrial environment and facilitated the emergence of life. It is also a timely reminder that the frozen edges of the planet are not distant margins but are rather central to understanding our planetary fate.



For more book reviews, see the **Useful Resources** section on our website where we have reviews of a number of books that we have enjoyed in recent years.

CONFERENCES & MEETINGS

The Guy Foundation [website](#) includes an up to date listing of in person and online conferences and meetings. Let us know if you have any to add.

APS GLOBAL PHYSICS SUMMIT, MARCH 2026

The APS Global Physics Summit will take place from 15 – 20 March, in Denver and online. We are pleased to see a wide range of biophysics topics, from the physics of proteins to collective behaviour in biological systems, although there does not seem to be a dedicated quantum biology session this year. If you are interested in facilitating such a session in 2027, we encourage you to contact the organisers to express your interest. For details see their [website](#).

MITOX, APRIL 2026

The annual MitOX conference will take place on 9 April, at Oxford's John Radcliffe Hospital. The meeting serves as a hub for discussing mitochondrial roles in cancer metabolism, neuroscience, diabetes, and rare disorders. Attendance is in person or online. The deadline for abstract submissions is 20 March 2026. For more information, see the [website](#).

QUANTUM BIOLOGY FORUM, APRIL 2026

The countdown has begun for the inaugural Quantum Biology Forum, April 13 – 14, in Silver Spring, Maryland. The meeting will convene an exclusive gathering of revolutionary thinkers to explore the 'missing physics of life' and bridge the gap between

quantum-scale dynamics and the future of medicine. The deadline for abstract submissions has passed, but registration is still open on the forum [website](#). The programme is shaping up to be a fascinating one with a diverse list of speakers, including some familiar faces. Michal Cifra, Nick Lane and Doug Wallace, all of whom have presented at our Guy Foundation lecture series, will be sharing their insights at the meeting. We were also pleased to see that Nirosha Murugan and Martin Picard, who we met at the 2025 Gordon Research Conference on Quantum Biology, are also presenting. From the Foundation, Geoffrey Guy and Alistair Nunn will be presenting and look forward to meeting you there.



FRONTIERS & CHALLENGES IN QUANTUM BIOLOGY, APRIL 2026

Frontiers and Challenges in Quantum Biology is a two-day conference from 16 – 17 April at the Niels Bohr Institute in Copenhagen, marking nearly a century since Niels Bohr's 1932 'Light and Life' lecture that is seminal in the history of quantum biology. The meeting brings together leading experts to explore quantum effects in living systems, featuring keynote talks, in-depth discussion, and a poster session for students and early-career researchers. The registration deadline is 31 March. For details, see their [website](#).

QUEBS, JUNE 2026

We are thrilled to see that QuEBS (Quantum Effects in Biological Systems) is back this year and will be held in Budapest from 3 – 5 June. The Guy Foundation is delighted to be supporting the conference. QuEBS continues its tradition of bringing together the brightest minds from physics, biology, and chemistry and warmly welcomes researchers at all career stages to share their latest findings and foster new collaborations. You can view the Call for Papers [here](#). The deadline for abstract submission is 29 March. For more details see their [website](#).

QUANTUM BIOLOGY, COGNITION AND MEDICINE WORKSHOP, JUNE 2026

The Quantum Biology, Cognition, and Medicine Workshop will take place from 10–11 June, in Växjö, Sweden, as part of the Quantum Information and Probability: from Foundations to Engineering (QIP26) Conference. The workshop invites researchers to explore the cutting-edge intersection of quantum theory, advanced diagnostics, and human behaviour. The deadline for abstracts is 25 April. For more details see their [website](#).

GORDON RESEARCH CONFERENCE ON QUANTUM BIOLOGY, MARCH 2027

Looking further ahead, we are thrilled that the 2027 Gordon Research Conference (GRC) on Quantum Biology has been announced. It will take place 7 – 12 March 2027, in Pomona, California, USA. For more details see their [website](#).

QUANTUM BIOLOGY ONLINE SEMINARS ROUND-UP

The following quantum biology seminars take place online:

The Big Quantum Bio meetings: Ad hoc meetings held on Thursdays, hosted by the Quantum Biology Ecosystem.

NIH QIS and Quantum Sensing: Online presentations focused on quantum sensing in biology for multidisciplinary researchers and clinicians.

Bioelectrodynamics Seminars: Hosted by the Czech Academy of Sciences, with particular focus on biological electromagnetic fields. Previous talks are available on [YouTube](#).

JOB OPPORTUNITIES

The Wake Forest Institute for Regenerative Medicine (WFIRM), Winston Salem, NC, United States, invites applications for a Postdoctoral Research Fellow to play a key role in establishing and advancing a new quantum biology laboratory. For more information see the [job description](#).

If you are looking for a research position, visit our directory of [QB centres](#).

DATES FOR YOUR DIARY



THE GUY FOUNDATION

**2026 SPRING SERIES PROGRAMME
MAGNETIC FIELDS AND BIOLOGY**

Magnetic fields are increasingly being recognised as crucial to biological processes, from bird navigation to human cellular functions. In this series we will explore the 'magnetobiology' field, including the underlying mechanisms, the evidence for its effects in plants, animals and humans and its potential for medicine.

Session 1**Magnetic fields and biology**

Wednesday 11 March

Professor Jonathan Woodward, University of Tokyo**Dr Brian Ross**, The Quantum Biology Institute**Session 2****The therapeutic use of magnetic fields**

Wednesday 25 March

Professor Margit Egg, University of Innsbruck**Professor Martyn A Sharpe**, Houston Methodist Hospital**Kamran Ansari**, Stanford University and GP Bullhound Young

Entrepreneur of the Year

Session 3**The evidence for magnetobiology – Part I animals and humans**

Wednesday 22 April

Professor Wendy Beane, Western Michigan University

Programme continued on next page



THE GUY FOUNDATION

**2026 SPRING SERIES PROGRAMME
MAGNETIC FIELDS AND BIOLOGY**

Session 4

The evidence for magnetobiology – Part II plants

Wednesday 6 May

Professor Massimo Maffei, Università di Torino

Session 5

Implications of magnetobiology

– roundtable session

Wednesday 20 May

Dr Betony Adams, The Guy Foundation and Stellenbosch University

Professor Alistair Nunn, The Guy Foundation
and University of Westminster

Followed by roundtable discussion

All sessions 15:00hrs – 17:00hrs UK-time on Zoom

Please contact n.copping@theguyfoundation.org to register

COMMUNITY NEWS

TRIVEDI INSTITUTE FOR SPACE AND GLOBAL BIOMEDICINE LAUNCH



Trivedi Institute leadership (from left to right): Sylvain Costes, Kate Rubins, Chris Mason, Afshin Beheshti

It is an exciting time to be in space health research! We were thrilled to hear about the official launch of the University of Pittsburgh **Trivedi Institute for Space and Global Biomedicine** in January. The institute has four core leaders which are Dr Kate Rubins as the Director, Dr Chris Mason

as the Co-Director, Dr Afshin Beheshti as the Director of the Center for Space Biomedicine and Dr Sylvain Costes as the Director of the Center for Space Biomanufacturing, Synthetic Biology, and Digital Health. This pioneering institute has a dual-benefit objective: applying the extreme lessons learned from the space environment to solve the most pressing health challenges here on Earth. By studying how biology adapts to the stressors of orbit, the Institute aims to unlock new therapeutic pathways for terrestrial diseases. The Institute's leadership Afshin Beheshti and Chris Mason have been an invaluable source of knowledge for the Foundation's space health programme, and we are excited to see where this venture takes them.

FIRST PHASE OF JETLAG EXPERIMENTS

We're delighted to share an update on The Copernican Project's jet lag experiments, following some early advice and encouragement for Steve Thorne from within the community. Steve's aim is to understand how the physical dynamics of air travel may influence cellular biology, with implications for circadian disruption and jet lag. The experiment subjected vials of human stem and immune cells to altered acceleration profiles designed to mimic eastward and westward travel. This phase is now complete, and The Copernican Project is currently looking for a collaborator interested in facilitating the wet-lab processing necessary before data analysis.



Samples from the jetlag experiment packed and ready to be shipped for analysis

100 INFLUENTIAL PEOPLE IYQ2025



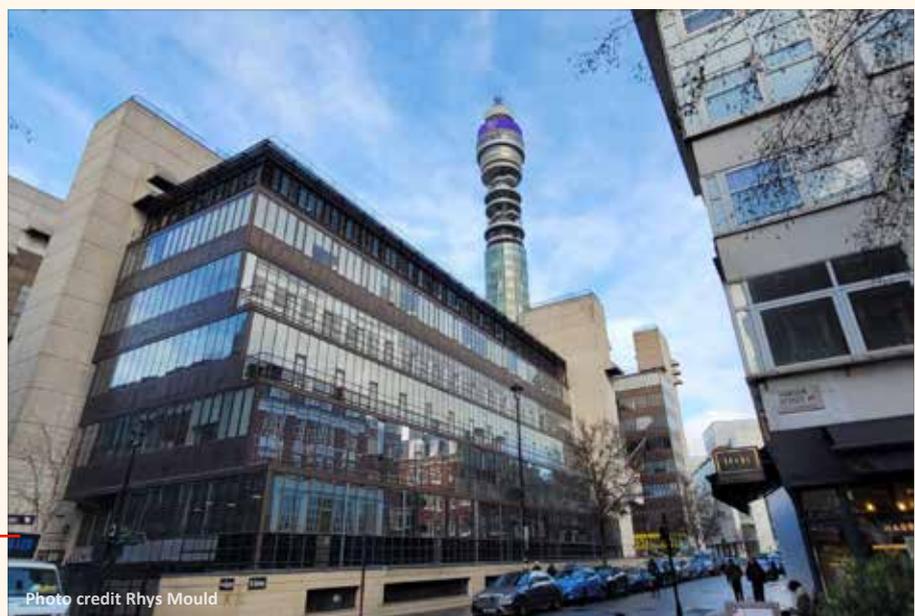
The Quantum 100, run as part of the International Year of Quantum Science and Technology (IYQ), was a global initiative aimed at celebrating the diverse people propelling the field of quantum

physics forward. Curated by the IYQ Steering Committee and officially revealed at the end of 2025, the list highlights 100 individuals whose contributions span academia, industry, education, art, and policy; recognising that progress often relies on collaboration and mentorship rather than visibility alone. We were delighted to see that quantum biology was represented, with Alexandra Olaya-Castro making the list. Alexandra is Professor of Physics and Head of the Biological Physics Section at University College London. She will be chairing the **Gordon Research Conference (GRC) on Quantum Biology** in March 2027. Congratulations Alexandra!

VIEW FROM THE LAB

In this section we enjoy, in what is an increasingly online world, taking a peek at the landscapes of our quantum biology community. This edition features **The Guy Foundation Quantum Biology and Bioenergetics Lab** at University of Westminster.

The Lab was established in 2018, when, as a newly established charity, The Guy Foundation awarded **its first grant** to form the innovative programme, located in the University's Research Centre for Optimal Health, which is led by Professor Jimmy Bell and Professor Louise Thomas. The Lab is situated at the Cavendish Campus in the heart of London.

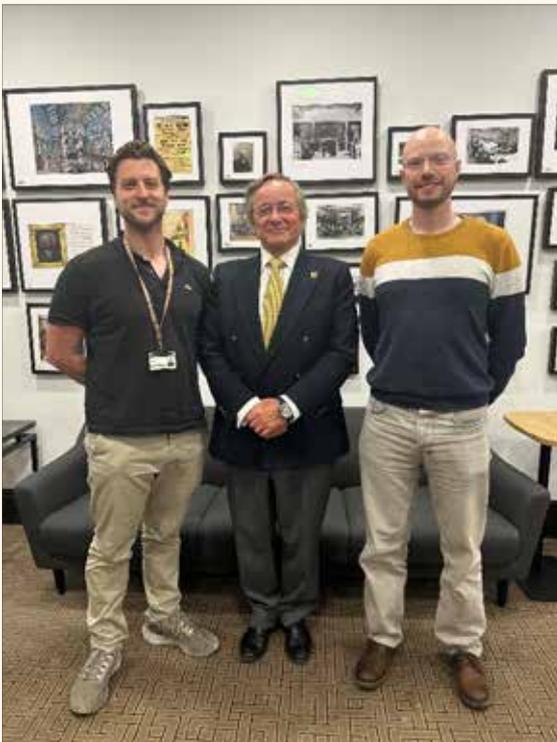


The University of Westminster's sparkling façade in the spring sunshine, with the BT Tower in the background

The Westminster Lab is headed by Dr Rhys Mould. Rhys completed his PhD in 2016 with Jimmy and Louise and remained with the group to kickstart the work into the role of quantum phenomena on biological



Sanika, Jimmy and Rhys inspecting some results in the Lab



Geoffrey Guy visits Rhys Mould and Alasdair Mackenzie (CLF) at the University of Westminster

systems. Alongside Grace Pennelli, Sanika Ghayal and Milosha Gracias, the Lab studies the interplay between electromagnetic radiation and cell biology. This includes modulating cellular behavior with near-infrared and blue light, measuring ultra-weak photon emission from cells, and exploring how exposure to hypomagnetic fields could affect astronaut health in deep spaceflight by studying its effects on cells in culture. Mitochondria are very much at the centre of the research.

The Guy Foundation Quantum Biology and Bioenergetics Lab is a unique partnership across two sites: the University of Westminster with its focus on life sciences work and the physics laboratory at the Central Laser Facility at Harwell, headed by Professor Stanley Botchway. This partnership has yielded some excellent advances, including the advanced optical instrumentation to detect ultraweak biophoton

emissions built by the Harwell team and now in use at Westminster, a great example of bringing cutting-edge quantum measurement technology directly into the biology laboratory.

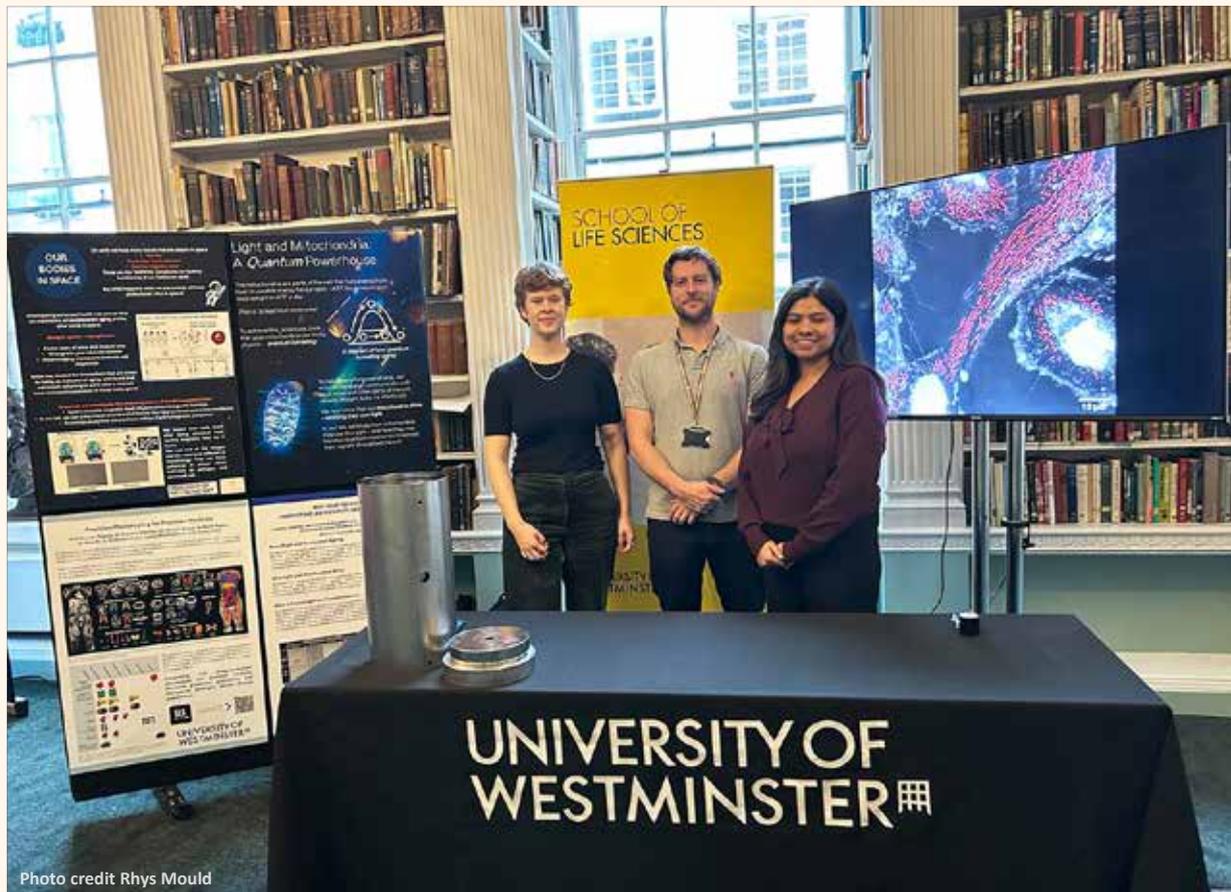


Photo credit Rhys Mould

Grace, Rhys and Sanika at a Royal Institution schools outreach event to inspire the next generation of quantum biologists.

For a directory of **Quantum Biology Centres** across the world visit our website. If you would like to add your centre please contact **Nina Copping**.

We hope you have enjoyed reading the Quarterly Review. Please feel free to get in touch with any suggestions for future editions - n.copping@theguyfoundation.org.

The Guy Foundation team



The Guy Foundation team visiting RAL Space, January 2026

www.theguyfoundation.org



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