THE GUY FOUNDATION

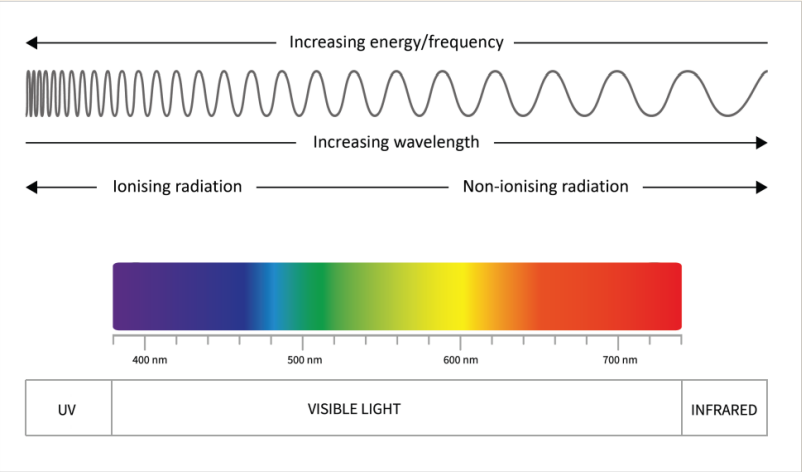
Quarterly Review

September 2025

Welcome to the 13th edition of the Quarterly Review, a digest of The Guy Foundation and quantum biology news.

Contents

2025 Autumn Series on Light



We are very excited for the 2025 Autumn Series on Light which starts this month and runs until December. The series will focus on light and its impact on health and is packed with fascinating presentations. We explore the therapeutic potential of light across the spectrum, from infrared to blue wavelengths. We also examine the health consequences of reduced exposure to natural sunlight in modern environments, and consider the implications of this for our built spaces – and for new frontiers such as space.

The opening session on **24 September** sets the tone with a foundational look at how light interacts with living systems.

Dr Michal Cifra
Session 1 speaker

Dr Robert Fosbury
Session 1 speaker

Dr Michal Cifra, from The Czech Academy of Sciences, introduces the field of photobiology from a physics perspective, before Dr Robert Fosbury, UCL and the European Southern Observatory, reflects on the deep and perhaps still underappreciated role of light in the evolution and maintenance of life.

Session two, on **8 October**, explores the health effects of sunlight, UV, and blue light. Professor Richard Weller, University of Edinburgh, draws on dermatological and systemic evidence to explore the role of sunlight in human physiology. His research on nitric oxide, cardiovascular health, and mortality reframes UV and blue light not merely as a sleep disruptor, but as a potential therapeutic agent.

Dr Alix Bailie
Session 2 intro speaker

Professor Richard Weller
Session 2 speaker

The third session on **22 October** focuses on the emerging use of green light as a non-invasive therapy. Professor Mohab Ibrahim from the University of Arizona presents on his groundbreaking work using green light in the treatment of chronic pain and fibromyalgia. He is joined by Professor Alistair Nunn from The Guy Foundation and University of Westminster, who places this therapy in a broader biological context, linking light to metabolic regulation and mitochondrial function.

Dr Betony Adams
Session 3 intro speaker

Professor Mohab Ibrahim
Session 3 speaker

Professor Alistair Nunn
Session 3 speaker

On **5 November**, session four introduces red and near-infrared (NIR) light as powerful modulators of cellular health.

Dr Ifi Kalampouka
Session 4 intro speaker

Professor Glen Jeffery
Session 4 speaker

Professor Glen Jeffery from UCL discusses his extensive research into red light's effects on mitochondrial function and its therapeutic potential in ageing, neurodegeneration, and visual decline.

The fifth session on **19 November** turns our attention to the environments we inhabit: indoors, underground, and in space.

Dr Roger Seheult
Session 5 speaker

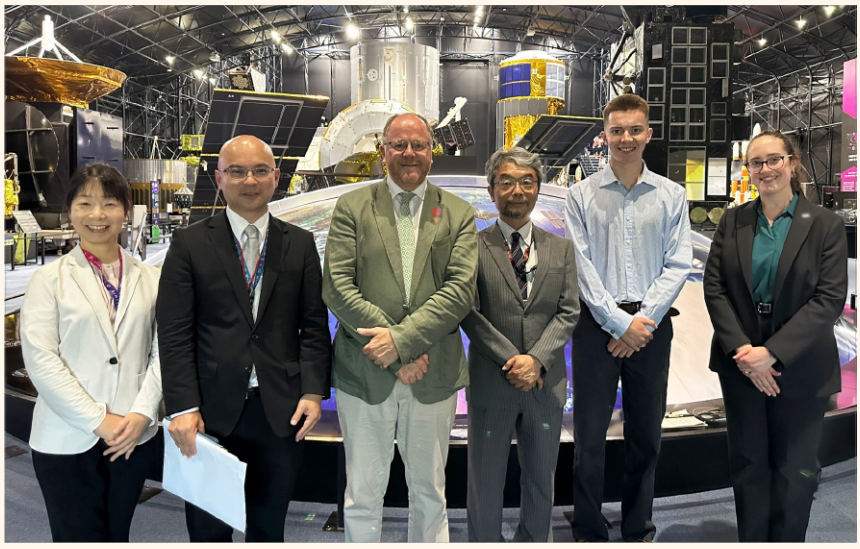
Dr Roger Seheult, from Loma Linda University, explores how changes in natural light exposure, especially reductions in red and infrared light, may be affecting health at a population level. The discussion includes how artificial lighting and built environments may be contributing to a hidden light deficiency.

The series concludes with a bumper roundtable meeting on **3 December**. A range of expert speakers, Stefan Behling and James Sherman (Foster + Partners), Dr Max Gulhane (Regenerative Health), Scott Zimmerman (Silas Inc), and Ulysse Dormoy (Atrium Lighting), will offer insights into how we might enable lighting environments that better support human health. Their short talks are followed by an interactive roundtable discussion among the speakers and all attendees to identify priorities for research, policy, and design.

Videos of the series talks will be available on our **website** and **YouTube channel**. If you would be interested in joining the live sessions and aren't already registered, please contact **n.copping@theguyfoundation.org**.

Space Health Programme Update

As our international partnerships advisor, George Freeman MP continues to lead and coordinate our Space Health Programme. He has had a busy programme of meetings in recent months. George received a very warm welcome from the JAXA President, the team at Tsukuba Space Center and Masafumi Muratani for his in-person visit in June. Whilst in Tokyo he also greatly enjoyed the opportunity to meet with Jonathan Woodward, who recently co-chaired the Gordon Research Conference on Quantum Biology. George learnt a great deal about quantum spin and Jonny's research at the University of Tokyo, as well as enjoying the chance to discuss quantum biology and space health.



George Freeman MP visiting the Tsukuba Space Center team with Masafumi Muratani and British Embassy representatives in June 2025

We have been taking the summer months to meet online with a number of space agencies and companies to discuss space health, emerging research, and the needs of the sector. We have greatly

appreciated the time that people have taken to meet with George Freeman and our team and the listening exercise has been valuable in informing our future plans.

In the meantime, the initial experiments at **The Guy Foundation Quantum Biology and Bioenergetics Laboratory** at the University of Westminster and Central Laser Facility, UKRI-STFC, Harwell have continued apace with more data being collected on the effects of hypomagnetic fields and altered light environments on cellular energetics.

Sanika Ghayal

In September the University of Westminster's School of Life Sciences space health PhD students commence their studies. Congratulations to Sanika Ghayal, a Research Associate in our laboratory, who has been awarded one of the studentships and will be working on the project 'Novel approaches to osteoarthritis therapy' led by Dr Stephen Getting. This study explores the influence of hypomagnetic fields on osteoarthritis by examining their effects on chondrocyte viability, oxidative stress, and ion channel regulation, with a focus on their role in preserving cartilage integrity and modulating disease progression.

If you are interested in hearing more about the space health programme please contact Nina Copping - **n.copping@theguyfoundation.org**.

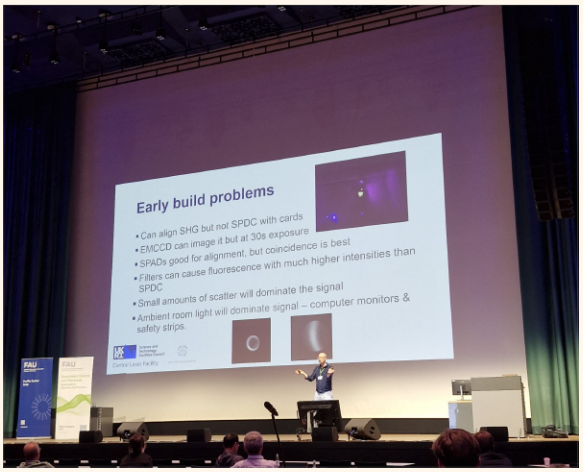
Research Programme Update

Rhys Mould, Head of Group at **The Guy Foundation Quantum Biology and Bioenergetics Laboratory**, University of Westminster, hosted a visit from Elisa Ferrè, Professor of Cognitive Neuroscience at Birkbeck, University of London, in August to discuss their respective space health research activities. Elisa's work explores how the vestibular system and gravity influence brain function and perception – critical questions for human cognition in space environments. Rhys commented:

"After a tour around our lab, Jimmy and I sat down for coffee with Elisa and had a conversation about her research (which includes some fascinating experiments with parabolic flights and human centrifuges) and ours, and how we might weave those two threads. Research into low-gravity conditions, the primary area of Elisa's focus, is one of the few areas where it's easier to study human participants than cell cultures, which is a shame as the interplay between low-gravity and hypomagnetic fields should be an important area of space health research.

Elisa has shown in both space and simulated low gravity conditions that a person's decision making, perception and other aspects of brain processing are altered. In previous work with Glen Jeffery, we have looked at how exposure to near-infra red light can improve perception. We therefore suggested experiments to see how NIR exposure may improve tasks such as verticality perception. This may have importance in space flight to reduce the effects of low-gravity on neural processing of astronauts in space flight."

Elisa and Rhys in front of The Guy Foundation Quantum Biology and Bioenergetics Laboratory, University of Westminster



Alasdair Mackenzie presents his research on entanglement in biological systems

For those interested in Professor Ferrè's fascinating research, her **inaugural lecture** offers a compelling overview and is available to watch on YouTube.

The team at Harwell has also been busy. Guy Foundation postdoctoral researcher Alasdair Mackenzie presented his recent research on entangled photons at the 32nd International Conference on Photochemistry which took place from 13 – 18 July in Aachen, Germany. The conference focused on cutting-edge advances across the photochemical sciences, spanning fundamental theory, experimental techniques, and practical applications from energy to healthcare. The Guy Foundation has a long history of interest in entanglement within biological systems, and we are very excited by Alasdair's progress in developing the precision technology necessary to investigate this fascinating quantum phenomenon.

Guy Foundation postdoctoral researcher Alix Bailie, also from the Harwell team, has had a busy summer of conferences. She recently attended The Single Molecule Localisation Microscopy Symposium (SMLMS) in Bonn, Germany.

A view across the river from the young SMLMS venue in Bonn, Germany

The statue of August Kekulé outside the young SMLMS venue (Institute for microbiology and biotechnology). August Kekulé is famous for having founded the theory of chemical structure, most significantly the structure of benzene. His legacy resonates in the field of quantum biology, where the delocalised electrons of aromatic molecules such as benzene play a pivotal role.

Alix Bailie presenting her research at the Microscience Microscopy Congress (MMC) in Manchester

The conference has been running for over a decade, but this was the first instance with a dedicated, pre-SMLMS 'young' section which saw around fifty masters students to post-docs meeting to share their research as 10-minute talks, participate in hands-on coding workshops, and engage in round-table discussions on careers, green labs, public engagement, and more. Alix commented:

"The inaugural young SMLMS sparked conversations with international peers, enhancing the experience of the main conference where I also presented a poster. I'm new to the area of single-molecule research, and found the community welcoming and willing with a range of interests. After a week in Bonn, I'm excited to return home with new ideas."

Alix also presented the latest results from her work on the 'Understanding the mechanism

of photonic modulation of metabolism, inflammation and angiogenesis using Fluorescent Light Energy (FLE)' study at the Microscience Microscopy Congress (MMC) in Manchester, and was pleased to report lots of positive feedback. Her poster focused on phosphorescence and fluorescence lifetime imaging under novel conditions, research she is undertaking with Stan Botchway at Central Laser Facility (STFC-UKRI). The FLE Study is funded by The Guy Foundation, in collaboration with Picchio International.

We would like to take this opportunity to express our deepest condolences to the family, friends and colleagues of Dr Francesco Bellini, founder and Chairman of Picchio International, who passed away in July. His close colleague Dr Lise Hébert shared the following tribute with us:

> Dr Bellini was one of Canada's most successful biotechnology entrepreneurs whose whole life was dedicated to science and its advancement. Innovation enlightened his research and professional life, which led to millions of lives with improved health through his contributions, which is inspirational for all those working in the frontier science of quantum biology. The ground-breaking nature of the research he supported stands as a tribute to his vision, in the field of healthcare worldwide.

ARIA Bioenergetics Opportunity Space

We were pleased to see that the **Advanced Research + Invention Agency (ARIA)** is calling for input into its new Bioenergetic Engineering opportunity space. ARIA is the UK's frontier science research body, designed to fund transformative science that lies beyond the scope of conventional funding systems. To facilitate this, ARIA empowers Programme Directors with the autonomy to define and pursue radical opportunity spaces.

One such director, Nathan Wolfe, is leading a programme focused on the bioenergetics of living systems, specifically how mitochondria may hold the key to preventing chronic diseases. Building on research that links mitochondrial dysfunction to conditions like Alzheimer's and type 2 diabetes, Wolfe's objective is to explore whether rebalancing or enhancing energy flow in cells could improve long-term health outcomes. The programme is currently in the developmental stages, with ARIA's **opportunity spaces** highlighting critically important yet underexplored areas of research they believe are primed for breakthroughs. You can read more about the bioenergetic engineering opportunity space **here**. Researchers are invited to contribute new ideas, or suggest alternative directions. We think this could be an excellent opportunity to help shape the programme.

Quantum Biology, Quantum for Biology, Quantum in Biology

We had an interesting conversation with Warwick Bowen, from the University of Queensland, at the Quantum Biology GRC in Italy earlier this year revolving around the subtle differences between the terms, quantum biology, quantum *in* biology, and quantum *for* biology, which reflect the various ways in which quantum theory intersects with the life sciences.

As far as we understand it (though we are very happy to be corrected!) quantum biology refers to the interdisciplinary field that studies how non-trivial quantum phenomena – such as coherence, tunnelling, and entanglement – might play functional roles in biological processes. Quantum biology is not merely the intersection of quantum physics and biology, but it is the exploration of the extent that quantum mechanics is being used by biology beyond what has previously been accepted as "normal".

Quantum in biology, or quantum for biology, is a broader term that describes the use of quantum technologies – such as quantum sensing, simulation, or computing – to better understand or manipulate biological systems, offering new tools to probe life at unprecedented precision.

Warwick is organising the Quantum Technology in the Life Sciences (qLIFE) conference, an international conference series focused on the life sciences applications of quantum technologies. We are very glad to see the expanding investigation of how quantum theory might offer insights into living systems, see our **conference section** for details.

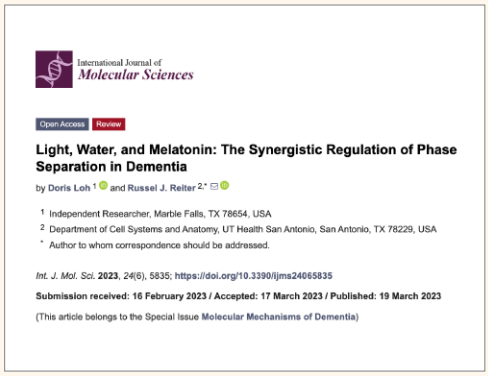
Watch This Space!

The Foundation is delighted to be involved in curating a new quantum biology conference, to take place in the Washington, D.C. area, USA, in 2026. The **Quantum Biology Forum** will be hosted by Northwell Health and supported by United Therapeutics. It aims to convene an "exclusive audience of the brightest minds and revolutionary thinkers across science, medicine, and innovation". The idea for the meeting in part grew out of discussions the Foundation had with Quantum Biology Forum organiser Lance Becker, a physician-scientist at Northwell's research arm, the Feinstein Institutes for Medical Research. See our **conference section** for more details.

Books & Papers

Journal club

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


International Journal of Molecular Sciences

Open Access Review

Light, Water, and Melatonin: The Synergistic Regulation of Phase Separation in Dementia

by Doris Loh [1] and Russel J. Reiter [2,*]

[1] Independent Researcher, Marble Falls, TX 78654, USA
[2] Department of Cell Systems and Anatomy, UT Health San Antonio, San Antonio, TX 78229, USA
* Author to whom correspondence should be addressed.

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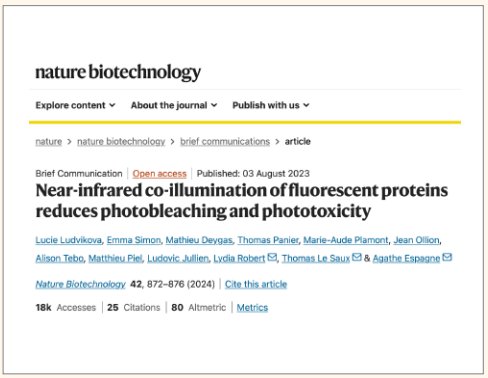
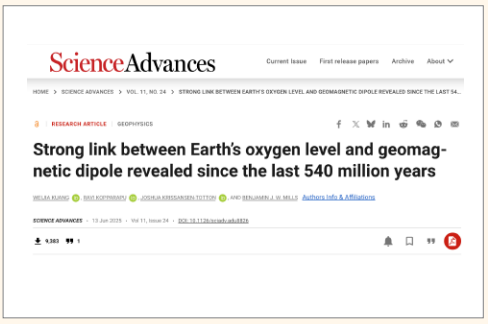
(This article belongs to the Special Issue Molecular Mechanisms of Dementia)

We were interested to read a recent paper that addressed both of the subjects of the Foundation's 2025 Spring and Autumn Series. The paper, **Light, Water, and Melatonin: The Synergistic Regulation of Phase Separation in Dementia**, published in the *International Journal of Molecular Sciences*, explores the dynamics of phase separation in biological systems and how this is related to the release of water molecules from protein hydration shells. In particular the paper outlines how the higher viscosity of interfacial water is counterbalanced by the viscosity lowering effects of photobiomodulation as well as the presence of melatonin. This in turn has a synergistic effect on melatonin conformation and binding interactions that prevent hydrophobic collapse in phase separation. This could have profound implications for understanding certain diseases, given that phase separation has been associated with the increased pathological aggregations prevalent in neurodegenerative disorders, such as Alzheimer's disease. This is particularly interesting as melatonin is an ancient molecule, and is also key in antioxidant defence involving the mitochondrion, indicating that a single molecule can have multiple functions.

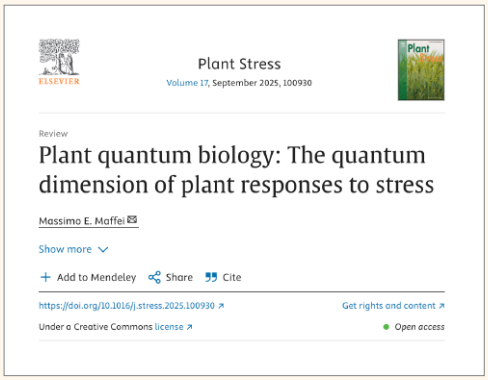


The beneficial effect of applying light to biological systems is also the subject of another paper, published in the journal *Nature Biotechnology*. The paper, **Near-infrared co-illumination of fluorescent proteins reduces photobleaching and phototoxicity**, outlines an experimental method to reduce the phototoxicity associated with photobleaching of fluorescent proteins. The authors describe how they apply coincident near-infrared illumination during the process of fluorophore excitation to exploit spin-dependent relaxation methods through reverse intersystem crossing. The technique, which can be easily applied to commercial microscopy, allows for a substantial decrease in photobleaching effects in a number of different fluorescent proteins. The implication is that NIR can offset the potentially damaging effects of blue light, which could be important in maintaining health in many organisms, including humans.



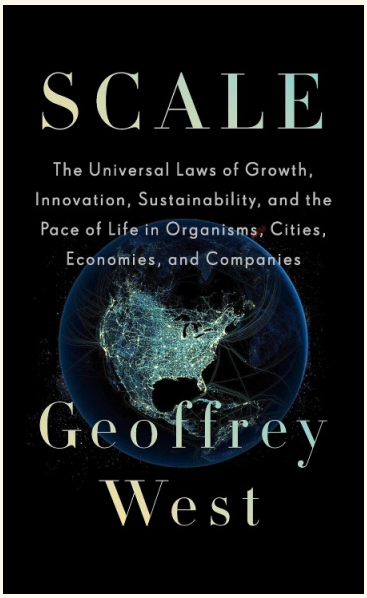
Given our research focus on space health, we are always interested in evidence that the Earth's magnetic field has played a fundamental role in shaping living organisms. We were thus intrigued to see a new paper, **Strong link between Earth's oxygen level and geomagnetic dipole revealed since the last 540 million years**, published in *Science Advances*, that examines the evolution of the geomagnetic axial dipole moment and the atmospheric oxygen level over the past 540 million years. The authors found a significant correlation between the two, with both showing linearly increasing trends.

Oxygen levels have played a fundamental role in the emergence and evolution of life on Earth, and this apparent correlation with the geomagnetic field prompts speculation into the unique habitability of our home planet and the evolution of terrestrial life.



And finally, after our fortuitous meeting with plant physiologist Massimo Maffei at the Quantum Biology Gordon Research Conference earlier this year we were pleased to read his recent paper **Plant quantum biology: The quantum dimension of plant responses to stress**, published in the journal *Plant Stress*. The paper is an in-depth review of possible quantum effects in plants, including a focus on photosynthesis, magnetosensitivity, enzyme catalysis and plant stress responses. A better understanding of whether quantum effects are implicated in plant stress responses could have implications for the development of stress-tolerant crops and agricultural innovation. It could also provide insight into how the stress response system works in animals, and potentially, why plant compounds can have medical benefits. We look forward to further conversations with Massimo.

Book corner



For this issue's book corner Guy Foundation faculty member **Robert (Bob) Fosbury** has written a review of *Scale* by Geoffrey West, published in 2017 in Penguin Press. Although we tend to review more recent books, we have had a number of interesting conversations around the importance of physics in understanding biology, particularly the physics of complex systems, and Robert felt this was one not to be missed.

SCALE: THE UNIVERSAL LAWS OF GROWTH, INNOVATION, SUSTAINABILITY, AND THE PACE OF LIFE IN ORGANISMS, CITIES, ECONOMIES, AND COMPANIES

BY GEOFFREY WEST

This book elevates the study of bioenergetics to its rightful place in the quest to understand what life is. Geoffrey West – a theoretical particle physicist who, in the late 1990s and early 2000s, formed a wonderfully creative interdisciplinary collaboration with the ecologists James Brown and Brian Enquist – describes the astonishing unity revealed by a theory of metabolism that extends across the biosphere, in both its biological and social dimensions.

Building on Max Kleiber's 1930s discovery of a scaling law linking basal metabolic rate to body mass, based on measurements of a vast array of animals, this group developed a rigorous understanding of the mathematical form of the scaling law and its

derivatives. They rooted it in the fractal properties of the distribution networks that sustain both plants and animals. By "seeing the forest for the trees", the book allows us to perceive the complexity of life within a cosmological context.

In my study, it sits alongside Schrödinger's What is Life, as a reminder of the fundamental importance of physics in biology.

Geoffrey West is based at the Santa Fe Institute, a world-leading centre for the science of complex systems. If you are interested in complexity theory they have a fascinating podcast, here is an episode featuring Geoffrey and his **theory of scaling**.

Conferences & Meetings

The Guy Foundation **website** includes a page dedicated to quantum biology related conferences and meetings, both online and in person. If you have any to add, please let us know.

Quantum Technology in the Life Sciences (qLIFE) 2025

The Quantum Technology in the Life Sciences (qLIFE) conference will take place from 19 – 21 November 2025 in Woolyungah/Wollongong, Australia. Described by the organisers as the first international conference series focused on the life sciences applications of quantum technologies, it will bring together researchers and experts from academia, industry and medicine from around the world to explore the latest advances and innovations. To find out more see their **website**.

Quantum Biology Forum, 2026

The Quantum Biology Forum will take place from the 13 – 14 April 2026, in the Washington D.C. area, USA. The programme is still being finalised but keep an eye on the **website** for more details.

Quantum Biology Seminars Round-Up

The Big Quantum Bio meetings

Clarice Aiello of the **Quantum Biology Ecosystem** organises these meetings which take place online on selected Thursdays and are free to attend.

QIS and Quantum Sensing in Biology Interest Group

The National Institutes of Health's Quantum Information Sciences (QIS) and Quantum Sensing in Biology Interest Group hosts monthly online meetings. There is an upcoming Seminar by Michael Levin, Vannevar Bush Professor, Distinguished Professor, Department of Biology, Tufts University on 22 September. For more information visit the **website**.

Bioelectrodynamics seminars

These meetings are hosted by the Bioelectrodynamics group at The Czech Academy of Sciences. For more information visit the **website**. Video recordings of previous presentations can be viewed on **YouTube**.

If you have conferences or meetings to include, please let us know.

Dates for your Diary

THE GUY FOUNDATION

2025 Autumn Series Programme

Light

Session 1

Light and life – an overview

Wednesday 24 September

Dr Robert Fosbury, UCL and the European Southern Observatory (ESO)

Session 2

The health effects of sunlight, UV and blue light

Wednesday 8 October

Professor Richard Weller, University of Edinburgh

Session 3

The therapeutic use of green light

Wednesday 22 October

Professor Mohab Ibrahim, Department of Anesthesiology, The University of Arizona

Professor Alistair Nunn, The Guy Foundation and University of Westminster

Session 4

Near infrared (NIR) starvation and the therapeutic use of red light

Wednesday 5 November

Professor Glen Jeffery, UCL

Programme continued on next page

THE GUY FOUNDATION

2025 Autumn Series Programme

Light

Session 5

Our evolving light environment and the impact on health

Wednesday 19 November

Dr Roger Seheult, Loma Linda University

Session 6

Improving our light environment for better health – special roundtable session

Wednesday 3 December

Stefan Behling, Foster + Partners

Dr Max Gulhane, Regenerative Health

Scott Zimmerman, Silas Inc

Ulysse Dormoy, Atrium Lighting

James Sherman, Foster + Partners

Followed by roundtable discussion

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

Please contact **n.copping@theguyfoundation.org** to register

Job Opportunities

Postdoctoral, PhD and undergraduate research positions are available in the Fay group – a new research group in theoretical and computational chemistry at **UCLA**. For more information see their **website**.

Postdoctoral positions are available in the Plant Physiology Unit at the **University of Turin**, where research is being done into the effects of magnetic fields on plant growth. For more information email Massimo Maffei, contact details are on their **website**.

The Quantum Neurobiology Lab at the **University of Waterloo** invites applications for a highly motivated and skilled Postdoctoral Fellow to establish, manage, and operate a neuronal culture facility for the study of Parkinson's disease. For more information see their **website**. The group is also currently **actively recruiting graduate students**, who are advised to contact them, along with any undergraduates interested in volunteering in the lab.

The **Quantum Biology Institute** is looking for a Chief Executive Officer to work with the board in overseeing all operations and sustainably advancing its mission. See the **job advertisement** for more information.

Community News

Quantum Photography Competition

INTERNATIONAL YEAR OF Quantum Science and Technology

If you have an interest in photography, the International Union of Pure and Applied Physics has launched an international photo contest to celebrate the 2025 International Year of Quantum Science and Technology. The organisers note that 'images should portray the beauty of quantum processes, the presence and impact of quantum science and technology on our everyday lives and the ways in which quantum research and education is carried out all over the world'. To find out more see their **website**.

Goodbye to Ifi Kalampouka

Ifi Kalampouka and supervisor Louise Thomas at Ifi's graduation in July 2025

We're sad to say goodbye to Ifi Kalampouka, The Guy Foundation's PhD student, as she leaves to begin an exciting new role at an AI company developing tools to streamline clinical trials. Ifi, whose research with Jimmy Bell and Rhys Mould at University of Westminster investigated cellular senescence and the effects of photobiomodulation on cancer cells, has been an integral part of the Foundation's early research journey. Ifi will remain a visiting researcher at the University of Westminster, contributing to research in the field on photobiomodulation, as part of an ongoing project. While we'll miss Ifi's curiosity, energy, and hard work, we're thrilled to see her take this next step into the world of applied innovation in healthcare. We wish her every success in this new chapter!

Betony Adams attends NITheCS Launch in Stellenbosch

We were thrilled to hear that NITheCS, South Africa's National Institute for Theoretical and Computational Sciences, had a successful launch in Stellenbosch on 10 September, attended in person by Betony Adams, NITheCS postdoctoral researcher and Guy Foundation science communicator. Congratulations to NITheCS Director Francesco Petruccione for co-ordinating this significant step forward for South African science, bringing together researchers, students, and stakeholders from across disciplines, all united by a shared commitment to deepening the role of theoretical and computational sciences in addressing today's complex challenges. NITheCS is profoundly interdisciplinary in its approach, something that's not only welcome but essential in a world where many of the most exciting and impactful research areas, such as quantum biology, complex systems, and emerging AI models, demand collaboration across traditional boundaries. We look forward to seeing what this dynamic community will achieve in the years ahead.

Director Francesco Petruccione welcomes guests at the official public launch of NITheCS in Stellenbosch, South Africa (above and right photo credit: Omid Hassasfar)

A marimba band entertains guests at the ribbon-cutting outside the brand new NITheCS offices at Stellenbosch University

View from the Lab

In what is an increasingly online world, we enjoy taking a peek at the landscapes of our quantum biology community, a glimpse out of your laboratory windows. For our September edition we asked Aarat Kalra, Assistant Professor at the Centre for Biomedical Engineering at the Indian Institute of Technology Delhi, for his view. Aarat's research interests lie in understanding the molecular mechanisms by which light and electricity can be harnessed to diagnose and treat disease.

Aarat Kalra with his team outside the lab

Aarat (far left) directs the Molecular Electrobiology Lab. He works with students coming from backgrounds ranging from biochemistry to electrical engineering and computer science.

Aarat has been drawn to the interface of light and biology ever since, as an undergraduate at Dayalbagh Educational Institute in Agra, India, he came across a talk by Sir Roger Penrose on the role of quantum mechanics in the brain. This inspired him to take a closer look at the field of quantum biology. Aarat is a truly interdisciplinary scientist, and enjoys the distinction of completing three degrees in three different scientific disciplines – BSc in Chemistry, MSc in Biology and PhD in Physics!

PhD complete, Aarat moved to Princeton University, where he undertook postdoctoral research work under Prof. Gregory Scholes.

His work here showed that anaesthetics could alter electronic energy migration in microtubules. This work made its way to the front cover of ***ACS Central Science***.

Aarat always planned to return to India after his studies, to continue his scientific contributions, and train the next generation of Indian quantum biologists. He now directs the Molecular Electrobiology research group and is looking to explore the role of quantum mechanics in new intracellular targets. A recent thrust of his lab is to understand how intracellular quantum mechanical effects can be used to engineer therapeutic paradigms for skin cancer.

Read more about his lab.

The imposing facade of the Indian Institute of Technology, against a dramatic Delhi sky

We have recently updated the **Quantum Biology Centres** page on our website, featuring research groups from across the world. If you would like to be added 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

Geoffrey Guy (Founder and Chairman) and John Collier (Director, Central Laser Facility) at the Research Meeting held at Harwell in June

Alistair Nunn (Director of Science) enjoying his glider over the summer, with this photo taken near the Welsh mountains

www.theguyfoundation.org