



THE GUY FOUNDATION

NEWSLETTER

March 2024

**Welcome to the 7th edition of The Guy Foundation Newsletter.
We hope you enjoy reading it. Do get in touch with any
suggestions for future editions.**

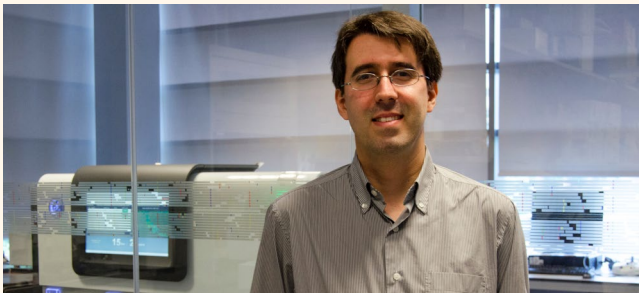
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2024 SPRING SERIES ON AGEING

The 2023 Autumn Series on space health generated some vigorous discussion, including on the link between space health and ageing, as astronauts demonstrate some aspects of accelerated ageing. Indeed, it was suggested that space might serve as a laboratory in which to better understand mechanisms of terrestrial ageing. The [space health series talks](#) and [Proceedings](#) are available on our website.

The [2024 Spring Series](#) will allow us to focus more closely on ageing and the many questions that remain unanswered. The Series began on Wednesday 6 March with a presentation by Joao Pedro Magalhaes from the University of Birmingham. The presentation addressed current theories of ageing, in particular those genes that regulate ageing and how this might inform our quest for immortality. A video recording of this talk is available on our [website](#) or [The Guy Foundation YouTube channel](#).



The 2024 Spring Series opening speaker, Joao Pedro Magalhaes from the University of Birmingham

The forthcoming talks by Ken Raj, Wayne Frasch, Nick Lane and Alistair Nunn, will focus on different approaches to understanding ageing, from epigenetic changes, mitochondrial implications and mitigation strategies, as well as how quantum biology can offer a fresh perspective. The Spring Series will conclude on Wednesday 22 May. The programme is available [here](#) or see [Dates for your diary](#). If you are not already registered, please contact Nina Copping n.copping@theguyfoundation.org to do so.

SPACE HEALTH UPDATE

There has been an appreciable amount of interest generated by The Guy Foundation's **Space Health Programme**, with the **2023 Autumn Series** providing us with new avenues and ideas, excellent feedback and a forum for the fascinating discussion that the topic elicits.

We are continuing to draft the report on space health. We have been incorporating further insights from our working group of space scientists and the draft will be circulated to the working group for review in the coming weeks. One of the recent contributions of note was input from Robert Fosbury and Glen Jeffery, who are investigating how the UV-dominant light environment of the International Space Station may impact astronaut health.

One of our chief concerns on space health that has not been sufficiently investigated to date is the effect of hypomagnetic fields on human physiology. There is some evidence that hypomagnetic fields can result in disruption of metabolism. The implication is that when in space, when outside of the Earth's protective magnetosphere, it will not just be increased radiation that will be a problem, but also a direct effect on metabolism by the absence of a magnetic field. This could well be a pure quantum process. As a result of a fortuitous meeting at the **UK National Quantum Technologies Showcase 2023** The Guy Foundation is employing a novel device to undertake some initial experiments at the University of Westminster to start us on the path to better understanding the potential seriousness of the issue, with particular respect to long-term missions to the Moon and Mars.

Another fortuitous meeting at the 2023 quantum showcase was with Melissa Mather, Professor in Quantum Sensing and Engineering at the University of Nottingham. The Foundation team visited Melissa and interested colleagues in February and were very pleased to see the MuRoom, the zero-magnetic field room developed and constructed by the University's researchers for magnetoencephalography (MEG), which measures the tiny magnetic fields generated by electric currents in the brain. The discussions of how to utilise these facilities in the context of space health were inspiring – no doubt helped by Einstein's blackboard on the wall – and good connections made. We look forward to building this collaboration and initiating some early experiments with the team.

Melissa Mather said,

“ We're excited by initial scientific discussions with The Guy Foundation on quantum biology and space travel, exploring collaboration opportunities. The University of Nottingham's expertise in magnetic field shielding, quantum sensing, quantum biology, and mitochondrial biology, combined with The Guy Foundation's vision for innovative health solutions in space and on Earth, will help us advance our understanding of health, particularly vital for travel beyond Earth's magnetic field. ”



The OPM-MEG helmet, in the MuRoom at the University of Nottingham

From left to right: Niall Holmes, Alasdair Mackenzie, Alistair Nunn, Geoffrey Guy, Rhys Mould and Ifigeneia Kalampouka



The Guy Foundation and University of Nottingham meeting – with Einstein’s blackboard

From left to right: Peter Hobson, Alistair Nunn, Alister Davis, Niall Holmes, Ifigeneia Kalampouka, Rhys Mould, Geoffrey Guy, Alasdair Mackenzie, Mark Fromhold, Lisa Chakrabarti, Frankie Rawson and Melissa Mather

GRAND OPENING OF THE PHOTONIC DETECTOR

The grand opening of the photonic detector lab at the University of Westminster was a great success. The event was attended by The Guy Foundation trustees and team, the University of Westminster QB research team and life sciences academic colleagues, as well as the Vice Chancellor Professor Peter Bonfield and Head of the College of Liberal Arts and Sciences Professor Andrew Linn. The University of Westminster news article is available [here](#).



University of Westminster Vice Chancellor Peter Bonfield addressing the event

The photonic detector was developed and built at the Central Laser Facility at Harwell by Alasdair Mackenzie under the supervision of Stan Botchway. The apparatus is sensitive enough to detect the ultraweak emission of light from living organisms that is often referred to as biophotons. Alasdair's initial research led to the recent publication '[Rooting out ultraweak photon emission a-mung bean sprouts](#)', published in the *Journal of Photochemistry and Photobiology*. The photon detector was then moved to Jimmy Bell's

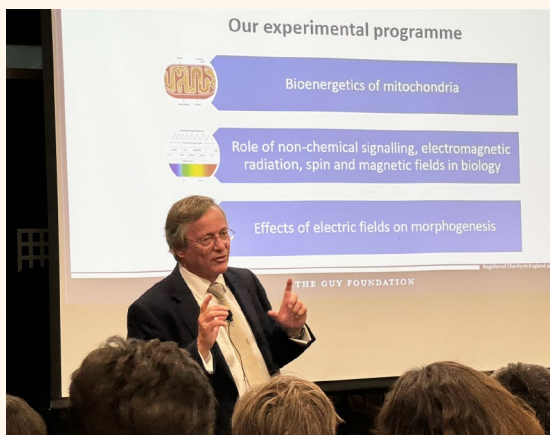
research group at Westminster University, where Rhys Mould undertook a series of experiments to see if mitochondria use non-chemical communication. To see the published results, see ‘**Non-chemical signalling between mitochondria**’ in *Frontiers in Physiology*. It was wonderful to see how the photon detector has been fully integrated into the Westminster research environment, with presentations from Rhys Mould and Ifigeneia Kalampouka highlighting the current and future research directions it will facilitate.



Rhys Mould giving a tour of The Guy Foundation Quantum Bioenergetics Laboratory

Geoffrey Guy commented,

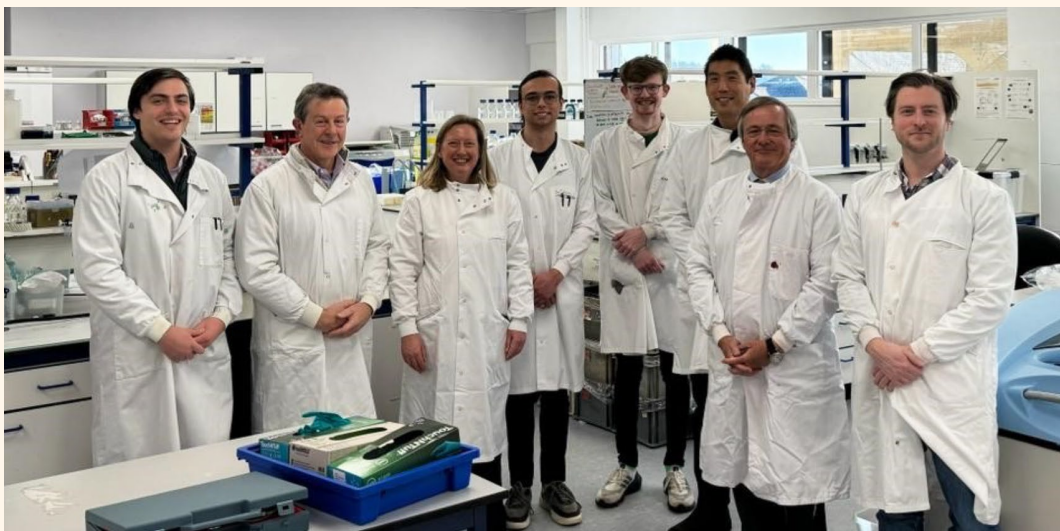
“ The event symbolised the fruition of one of the Foundation’s main aims, which is to bring physicists and biologists into direct communication, in order to further our understanding of quantum biology. ”



Geoffrey Guy presents the different aspects of The Guy Foundation experimental programme

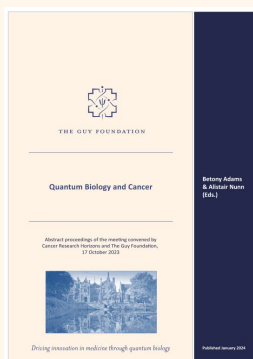
MEETING WITH UNIVERSITY OF SURREY

The Guy Foundation was delighted to meet up with Johnjoe McFadden, Jim Al-Khalili, Youngchan Kim, Catxere Casacio and other members of the **Leverhulme Quantum Biology Doctoral Training Centre (QB-DTC)** at the University of Surrey in January. The visit included a seminar with a talk by Alistair Nunn, laboratory tours and some excellent conversations about quantum biology.



Members of The Guy Foundation and the QB-DTC in the laboratory at the University of Surrey. From left to right: Alejandro Sánchez-Pedreño Jiménez, Alistair Nunn, Nina Copping, Ian Abrahams, Callum McKeaveney, Youngchan Kim, Geoffrey Guy and Rhys Mould.

CANCER MEETING PROCEEDINGS



The Proceedings of the Quantum Biology and Cancer Meeting co-convened by The Guy Foundation with Cancer Research Horizons in October were circulated to The Guy Foundation faculty in January and are now available on our [website](#). The aim of the meeting was to explore how advances made in understanding quantum effects in biology might be successfully applied to cancer research. We hope you enjoy reading more about the fascinating presentations.

CELEBRATING 100 YEARS SINCE GURWITSCH'S OBSERVATION OF BIOPHOTONS

As we announced in December, The Guy Foundation's 2023 Onion Prize, a celebration of the centenary of Alexander Gurwitsch's experiment on non-chemical communication between onion roots, was awarded to Nathan Babcock. His winning entry reinterpreted Gurwitsch's original discovery through the lens of subsequent advances in quantum theory, in particular open quantum systems theory. Nathan has submitted his manuscript to a peer-reviewed journal and we look forward to hearing him present the work to us later in the year.



THE GUY FOUNDATION
ONION PRIZE



The Guy Foundation 2023
Onion Prize winner, Nathan
Babcock

The Guy Foundation's research collaborators at University of Westminster and Central Laser Facility, STFC-UKRI, also marked the centenary by publishing a review article in the journal *Frontiers in Physiology*. The article, '**Ultra weak photon emission – a brief review**', addresses how these emissions, which are thought to result from metabolic processes, are different from other light emissions in biological systems, such as biological luminescence. The paper also discusses the ways in which this research has been hindered by confusing terminology and the lack of sufficiently sensitive technology to detect them. Finally, it touches on what role these emissions might play in biological function and what this might mean for future medical development.

NEW STUDY ON FLUORESCENT LIGHT EMISSION (FLE)

In our December Newsletter we reported the start of a new research collaboration between our UK research teams – Jimmy Bell at University of Westminster and Stan Botchway at Central Laser Facility (STFC-UKRI) – and Princeton University’s Gregory Scholes, as well as with collaborators at Picchio International, FB Dermatology and Dr Giovanni Scapagnini at the University of Molise.

Greg Scholes commented,

“ This new research project will focus on understanding how photonic modulation might have a therapeutic effect on metabolism, inflammation and angiogenesis, thus advancing the field of quantum biology and its potential application in medicine. I am excited to be a part of this new collaboration. ”



Greg Scholes and Geoffrey Guy at the FLE study meeting

The research will employ the proprietary gel-based fluorescence system developed as a therapeutic modality and being marketed by FB Dermatology. The Guy Foundation has received a generous donation from Picchio International towards the project costs, which we are teaming with our funding and scientific support to run this study.

We were delighted to see Greg Scholes when he visited London in February. We had a fruitful planning meeting with him and the research team members to plan the commencement of the study.

We are looking to hire a **postdoctoral researcher** for this project, to start as soon as possible. For details see the [Job Opportunities](#) section.

Please contact Nina Copping n.copping@theguyfoundation or Stan Botchway stan.botchway@stfc.ac.uk for further details.

UK NATIONAL QUANTUM TECHNOLOGIES PROGRAMME

The Guy Foundation was delighted to be invited to meet with the Office for Quantum, part of the UK's Department for Science, Innovation and Technology (DSIT) in London earlier this year to discuss quantum biology and its potential application. The Foundation presented a picture of the current landscape and areas of innovation. We are putting together a list of sectors and organisations that we anticipate will be part of the translation of QB research into application and adoption. Please feel free to contact us with details of any companies or organisations that you know of, by emailing Nina Copping n.copping@theguyfoundation.org.

WELCOME TO FFION



We are pleased to welcome Ffion Prestidge, who joined The Guy Foundation team in January as Programme Assistant.

To read more about the Foundation team see the Who we are page on our [website](#).

BOOKS & PAPERS

JOURNAL CLUB

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

Space health and ageing have some surprising commonalities, which often centre on mitochondria. Muscle atrophy, for example, is a symptom of both ageing as well as microgravity conditions. A recent paper in *eLife* journal '**The reciprocal regulation between mitochondrial-associated membranes and Notch signaling in skeletal muscle atrophy**', explores the underlying mechanisms by which this atrophy progresses. What the research reveals is that, in the context of microgravity, mitochondrial-associated endoplasmic reticulum membranes play an important role in preventing skeletal muscle atrophy. Furthermore, this has a knock-on effect on the regulation of the important Notch signalling pathway. The study has implications for both terrestrial ageing as well as space exploration and settlement.

On a related note, the paper '**Microgravity Effects and Aging Physiology: Similar Changes or Common Mechanisms?**', published in *Biochemistry Moscow*, reviews the overlap between cell changes that occur in terrestrial ageing and the effects of microgravity, with particular focus on progenitor cells. Progenitor cells are responsible for regenerative and repair processes, and their efficacy decreases with age. Age-related senescent states in progenitor cells also show pro-inflammatory changes. Certain types of these cells are mechanosensitive, which means that they are sensitive to

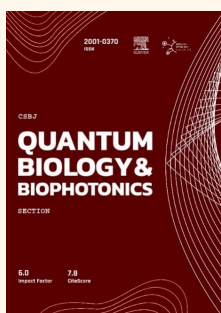
gravitational changes. The paper compares progenitor cell changes that result from ageing and those that result from microgravity conditions, to better understand the potential effects of interplanetary travel. This paper follows on from a series of papers, published by other groups, that suggest that astronauts and cosmonauts might be exhibiting an accelerated ageing phenotype.

Ageing is also the subject of another recent paper, '**DMHPpp1r17 neurons regulate aging and lifespan in mice through hypothalamic-adipose inter-tissue communication**', published in *Cell Metabolism*. The paper investigates what role the brain plays in ageing, with specific focus on the hypothalamus. This research builds on fascinating new evidence that inter-tissue communication and its dysfunction are linked to age-associated physiological decline. The study identifies a subpopulation of neurons in the dorsomedial hypothalamus that play a role in ageing and longevity in mice. These neurons also regulate physical activity and are implicated in other physiological processes such as white adipose tissue (WAT) function. Interventions targeting these neurons have an effect on age-associated WAT dysfunction as well as lifespan, highlighting the role of inter-tissue communication between neurons in the hypothalamus and WAT in mammalian ageing.

And finally, on a more practical note, we thought that a recent paper outlining strategies for advancing the progress of quantum biology might be of interest to the community. The paper, '**Accelerating an integrative view of quantum biology**', was published in *Frontiers in Physiology*. It addresses a central question that has been raised a number of times in conversations about quantum biology: how to bridge the deeply interdisciplinary nature of the field. The paper outlines potential ways in which this might be achieved, for example, by the standardisation of tools as well as

scientific vocabulary. The paper also emphasises the important role that community and collaboration will play in accelerating research frontiers. Wendy Beane, one of the authors, will be co-chairing the 2025 GRC on Quantum Biology. We look forward to many excellent discussions about the future of quantum biology.

QUANTUM BIOLOGY & BIOPHOTONICS SECTION LAUNCHED



The Computational and Structural Biotechnology Journal (CSBJ) has recently launched a new speciality section, making it the first peer-reviewed journal dedicated to **Quantum Biology and Biophotonics**. The journal will place a strong transdisciplinary emphasis on understanding biological systems that potentially harness quantum-mechanical processes. It will also include an innovative new article type called “Innovation Reports” to provide a platform for researchers, project consortia, and individuals engaged in academia-industry partnerships to share the outcomes of their joint endeavours. We welcome this new forum for quantum biology articles and look forward to it stimulating further collaboration and conversation between scientists from across the span of disciplines.

QB SPECIAL ISSUE INVITATION

The *IEEE Transactions on Molecular, Biological, and Multi-scale Communications* has announced a special feature entitled “Quantum Biology: Series II”, calling for submissions with a focus on quantum biology, in particular related to communication processes, information transfer/processing, or networks in biology. Prospective authors should submit their manuscripts following the IEEE TMBMC guidelines. Authors should submit a manuscript through Manuscript Central. The manuscript submission deadline is **1 May 2024**. For more information see the [website](#).

Book corner



For this issue's book corner, Alistair Nunn, The Guy Foundation's Director of Science, has written a review of *Exercised: Why Something We Never Evolved to Do Is Healthy and Rewarding*, published in 2020 (Pantheon, an imprint of Penguin Publishing Group).

EXERCISED, BY DANIEL E. LIEBERMAN

Daniel Lieberman is a widely published and acclaimed evolutionary biologist. He also does a lot of running, often barefoot. As part of his research, he has spent a lot of time studying hunter-gatherer groups, in particular, how they spend their days in relation to rest and physical activity, and how this may relate to health. The truth is that hunter-gatherers do tend to be much healthier than the average Westerner in that they suffer far less from “modern” diseases, such as diabetes, obesity and cardiovascular problems. Interestingly, although they do move a lot, they also spend a fair amount of time sitting, but critically, most of their physical activity is necessary, for instance, hunting and finding food, or carrying tools and other items. Their diet is also generally what modern doctors might define as “healthy”. What they don't tend to do is formalised and structured exercise.

In this book the author makes the point that although we clearly need to move to remain healthy, we also, by nature, tend to resist it. The truth is that a Western lifestyle has made it very easy to be lazy, but this is perhaps, from an evolutionary perspective, entirely normal.

This is a well written and fascinating book that although fully referenced, is easily accessible to the lay reader. It provides considerable insight into why and how humans move, and how we are different from many other animals, and how this likely gave rise to our success as a species. Some of it is quite surprising. It also discusses some of the history of how physical activity has been perceived and portrayed over the years, and why, perhaps, we are now struggling with the concept that exercise is, indeed, one of the best medicines.

CONFERENCES & MEETINGS

The Guy Foundation website hosts a list of [quantum biology conferences and meetings](#). If you are arranging a meeting and would like us to include it, please let us know by emailing n.copping@theguyfoundation.org.

2025 QUANTUM BIOLOGY GRC

We are delighted that the second Gordon Research Conference (GRC) on Quantum Biology has been announced. It will take place from **2 – 7 March 2025**, near Lucca, Italy, and will be chaired by Jonathan Woodward and Wendy Beane. It follows the successful inaugural GRC on Quantum Biology which took place in Galveston in March 2023.

The detailed programme is currently being prepared and more information will be on the [Quantum Biology GRC website](#) by **6 April 2024**.

The main meeting will be preceded by the inaugural Quantum Biology Gordon Research Seminar (GRS), which will take place from **1 – 2 March 2025**, chaired by Jana Vuckovic and Louie Slocombe. The GRS is a unique forum for young doctoral and post-doctoral researchers to present their work, discuss new methods, cutting edge ideas, and pre-published data, as well as to build collaborative relationships with their peers before the start of the GRC (should they apply and be accepted to the GRC as well).

Visit the [Quantum Biology GRS website](#) for more information.

SPIE PHOTONICS WEST JANUARY 2024

From 27 January – 1 February, the Society of Photo-Optical Instrumentation Engineers (SPIE) hosted its 29th annual Photonics West event in San Francisco, USA, with 24,000 attendees, 1,500 exhibitors and over 5,000 presentations. Among these was the first SPIE Photonics event focusing on quantum biology: the Quantum Effects and Measurement Techniques in Biology and Biophotonics conference was chaired by Clarice Aiello (UCLA), Sergey V. Polyakov (National Institute of Standards and Technology), and Paige Derr (National Institutes of Health).

It is exciting to see the emerging focus on quantum biology in a number of conferences this year. We asked Travis Craddock, who attended the conference, for his thoughts. Travis has published extensively on quantum biology, including fascinating research on what role [quantum effects might play in consciousness](#).

Travis commented that:

“ In alignment with the nature of SPIE Photonics a prime emphasis was placed on quantum optical methods for the study of biology with sessions on quantum methods in disease diagnostics, two-photon absorption effects, quantum light enhanced imaging, and quantum sensing. However, this was supplemented by sessions of quantum effects in biology beyond optics including talks on proton tunnelling in enzyme activity, charge and energy transfer in proteins, and magnetoreception.

Three key presentations of note highlighted these themes: Warwick Bowen (Univ. of Queensland, Australia) on using squeezed light to image molecular vibrations, K. Birgitta Whaley (Univ. of California, Berkeley, USA) on using single photon absorption to probe photosynthetic light harvesting systems,

and Clarice Aiello (Univ. of California, Los Angeles, USA) on controlling spin states within cells and tissues for therapeutic and technological advancements. Additionally, Marlan Scully (Texas A&M Univ., USA) presented in the plenary session on the use of quantum optical techniques to detect biopathogens, and the connection between quantum coherence in brain microtubules and superradiance.

Finally, scientific talks were complemented by a panel discussing the increased interest of US federal agencies (the National Institutes of Health, the National Institute of Standards and Technology, the National Science Foundation and the Department of Energy) in quantum for biology, quantum in biology, and biology for quantum as part of the overall US National Quantum Initiative. Altogether the experience was a pleasure to be part of the networking, research-sharing, and collaborative discussions among world-leading scientists, engineers, students, and businesspeople in both the larger photonics industry and the growing field of quantum biology. ”



APS MARCH 2024 MEETING

The **American Physical Society's March Meeting** saw 13,000 researchers and students from across the world descend on Minneapolis for a wealth of in-person and virtual presentations. The meeting featured a dedicated quantum biology session for the first time in its long history. Wendy Beane was the invited speaker for the in-person session 'Quantum Biology and Novel Techniques'. Presentations addressed a wide range of topics, from spin effects in magnetoreception and Posner molecules, to novel quantum effects in neuroscience. The session also considered advances made in quantum technologies, both for

measurement and control of biological systems. The virtual session 'Biological Physics at the Molecular Scale' included a number of presentations about quantum biology, in particular the effects of magnetic fields and the radical pair mechanism on biological systems.

MITOX APRIL 2024

The **MitOX conference** focuses on mitochondrial research and is organised by Karl Morten and colleagues at the Nuffield Department of Women's & Reproductive Health, University of Oxford. It will take place on Friday 12 April. Speakers include Glen Jeffery, who will present on the optical properties of metabolism and the importance of the light bulb, a topic we look forward to hearing more about.

The conference is open for registration both for in-person and online delegates. Registration is £40 (£25 student rate) or free of charge for online delegates. The deadline for submitting abstracts is **22 March** and the registration deadline is **29 March**. For the programme and registration link see the [webpage](#).

SQUABLS 2024

The Symposium on Quantum Applications in Biology and the Life Sciences – SQUABLS24 was set to take place on San Cristóbal Island, Galápagos, Ecuador in December 2024, however, the conference has been postponed due to the civil unrest occurring in Ecuador.

BIG QUANTUM MEETINGS

The programme for the forthcoming Big Quantum weekly meetings is expected shortly and will be available [here](#).

If you have conferences or meetings for us to include in the Newsletter, please let us know.

DATES FOR YOUR DIARY



THE GUY FOUNDATION

2024 SPRING SERIES ON AGEING

Session 1

Genes regulating ageing and the quest for immortality

Wednesday 6 March

Professor Joao Pedro Magalhaes, University of Birmingham

Session 2

Understanding the mechanisms underlying epigenetic changes with age

Wednesday 20 March

Dr Ken Raj, Altos Labs Cambridge Institute of Science

Session 3

From exercise to mitochondrial health to ATPase

Wednesday 24 April 2024

Professor Wayne Frasch, Arizona State University

Session 4

Thoughts on ageing mitochondria

Wednesday 8 May

Professor Nick Lane, University College London (UCL)

Session 5

Quantum and thermodynamic perspectives on ageing

Wednesday 22 May

Professor Alistair Nunn, The Guy Foundation

Followed by roundtable discussion

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

Please contact n.copping@theguyfoundation.org to register

JOB OPPORTUNITIES

CENTRAL LASER FACILITY, STFC-UKRI, UK – BIOPHYSICS POSTDOC RESEARCHER VACANCY

The **Central Laser Facility** at the **Harwell Science and Innovation Campus** is looking to hire a **postdoctoral researcher** for a two-year study on **Fluorescent Light Energy (FLE)**. The project is being supported by The Guy Foundation, in collaboration with Picchio International. The start date is as soon as possible. For details please contact Nina Copping n.copping@theguyfoundation or Stan Botchway stan.botchway@stfc.ac.uk.

UNIVERSITY OF EXETER, UK – RESEARCH VACANCIES

The Living Systems Institute (LSI) is an interdisciplinary research institute at the University of Exeter. They are currently recruiting interdisciplinary researchers to fill a number of posts, see their [website](#). The deadline for applications is **30 April 2024**.

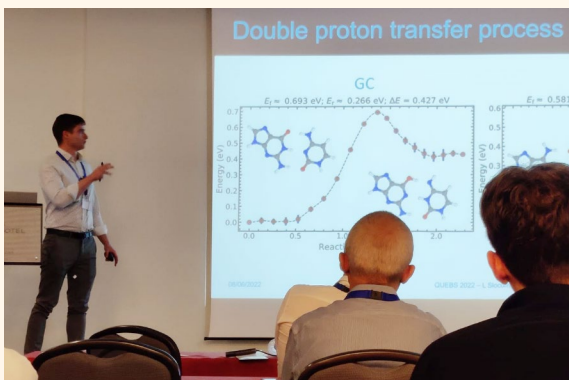
UNIVERSITY OF TRENTO, ITALY – INTERN OPPORTUNITIES

The Neurophysics Group, an interdisciplinary research laboratory jointly run by the Center for Mind/Brain Sciences and the Department of Physics at the University of Trento, welcome interns for projects of at least 6 months. For a list of their project topics see their [website](#).

COMMUNITY NEWS

US POSITION FOR LOUIE SLOCOMBE

We were interested to hear that Louie Slocombe, the first PhD student to graduate from the University of Surrey's **Leverhulme Quantum Biology Doctoral Training Centre (QB-DTC)**, will soon be moving to a new position at Arizona State University. Louie has published theoretical research on the role that quantum effects, such as tunnelling, might play in DNA mutations. For a look at his



Louie Slocombe presents his work on quantum biological effects in DNA mutations

recent publications see [here](#) and [here](#). His research has also been featured in the popular science magazine *Scientific American*, read the article [here](#).

Congratulations to Louie, we wish him luck with the move and are excited to see what this next chapter brings.

EXCITING DISCOVERY FROM MIKE LEVIN

Mike Levin and his colleagues have recently been in the news for groundbreaking research developing living “robots” from human tracheal cells. The entities, dubbed anthrobots, use their cilia to co-ordinate their movements. Even more fascinating is the observation that they might play some role in wound healing, a possibility with

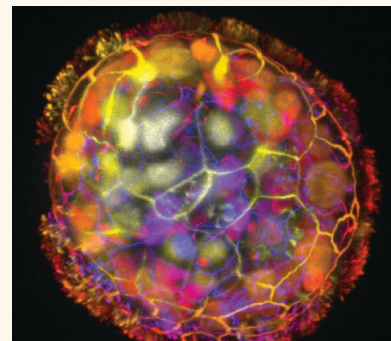


Illustration of an anthrobot by Gizem Gumuskaya, Levin Lab

profound implications for medicine. The original research ‘**Motile Living Biobots Self-Construct from Adult Human Somatic Progenitor Seed Cells**’ was published in the journal *Advanced Science*. The research has sparked a flurry of popular interest, appearing in a number of publications including an **article** in *Scientific American*.

Mike also has a **new website** ‘Forms of life, forms of mind’ where the content is, as he puts it, his thoughts on the science and philosophy of embodied minds, a more personal insight into his formal research. It includes a useful piece ‘**A taxonomy of my public material**’ on where information about him and his work is placed in the public sphere, which is a useful guide if, like us, you like to keep up to date with Mike’s research.

MOLECULAR FOUNDRY INTERNSHIP FOR RHYS MOULD



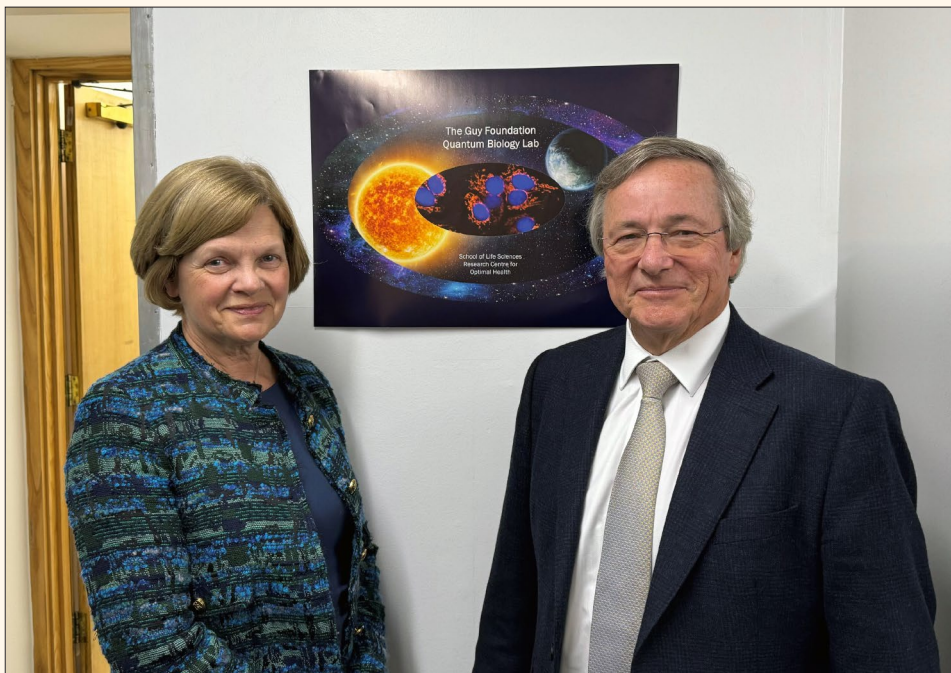
Rhys Mould, The Guy Foundation Quantum Bioenergetics Laboratory, University of Westminster

We are delighted to share the exciting news that Rhys Mould, The Guy Foundation funded postdoctoral researcher in Jimmy Bell’s research group at University of Westminster, will shortly be taking up a 3-month internship at the prestigious Molecular Foundry at UC Berkeley. Working with Dr Aeron Tynes Hammack, Rhys will investigate more deeply the phenomena of ultra-weak photon emission, exploring the nature of the emissions, what their targets are within a cell, and using world-class technology to amplify the light coming from within our cells. The

time spent at the Molecular Foundry will benefit the Foundation’s research objectives and work at the University of Westminster lab.

We hope you've enjoyed this edition of the newsletter.
If you have some news that you'd like to share, comments, or
would like to unsubscribe, please email
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The Guy Foundation team



Founders and Trustees Kate and Geoffrey Guy at the
University of Westminster in January 2024

www.theguyfoundation.org



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