



THE GUY FOUNDATION

2023 AUTUMN SERIES ON QUANTUM BIOLOGY AND SPACE HEALTH PROGRAMME

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

Session 1: Wednesday 20 September

Day to day life of an astronaut and effects on health

Welcome: Professor Geoffrey Guy, The Guy Foundation

Speaker: Dr Thomas H Marshburn, Sierra Space and retired NASA Flight Surgeon and Astronaut

Speaker: Dr Scott M Smith, Human Health and Performance Directorate, NASA Johnson Space Center

Session 2: Wednesday 4 October

Mitochondria and space

Introduction: Professor Alistair Nunn, The Guy Foundation and University of Westminster

Speaker: Professor Douglas C Wallace, The Children's Hospital of Philadelphia (CHOP) Research Institute

Speaker: Dr Afshin Beheshti, Blue Marble Space Institute of Science

Session 3: Wednesday 18 October

Microgravity and radiation effects

Introduction: Professor Alistair Nunn, The Guy Foundation and University of Westminster

Speaker: Professor Christopher D Porada, Wake Forest Institute for Regenerative Medicine

Speaker: Dr David Furman, Buck Institute for Research on Aging

Session 4: Wednesday 1 November

Potential effects of magnetic fields

Introduction: Betony Adams, The Guy Foundation and University of KwaZulu-Natal

Speaker: Professor Jonathan Woodward, The University of Tokyo

Speaker: Professor Wendy Beane, Western Michigan University

Session 5: Wednesday 15 November

Quantum gravity and inertial stresses

Introduction: Dr Nathan Babcock, Howard University

Speaker: Professor Vlatko Vedral, University of Oxford

Session 6: Wednesday 29 November

Roundtable meeting

Short talks to recap the series and roundtable discussion

Proceedings and recordings of our lecture series are available on our website:

www.theguyfoundation.org



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Background to the 2023 Autumn Series

The Guy Foundation believes that a better understanding of quantum effects in biology and bioenergetics will lead to significant advances in mainstream therapeutics. However, it has been 100 years since the first quantum biology experiments and so we need to find a way to accelerate progress. Recent breakthroughs in our experimental toolkits are promising and the community of scientists working in this area is growing and becoming better networked, therefore the Foundation believes the field is primed to demonstrate the relevance of this area of study for our understanding of biological systems and therapeutics development.

The Foundation proposes that a focus on space biology and health would help accelerate progress in this scientific endeavour. The study of human health beyond low Earth orbit would provide evidence of the direct effects of the altered electromagnetic and gravitational environments, which would yield important insights for terrestrial biology and health. In addition, this work may provide plausible evidence for justification for funding in this field. The Guy Foundation has therefore established a space health programme, which aims to better understand the impact of space travel and habitation on human health. We are aiming to identify and set out the important issues and questions in this area, make recommendations on the research needed to evaluate them and consider possible mitigation. The 2023 Autumn Series of online lectures is being run as part of this programme with the lectures in the series focussing on space biology and health.

Recordings of the talks are available on our website <https://www.theguyfoundation.org/our-conferences-and-meetings/> and our YouTube channel: <https://youtube.com/@theguyfoundation>

If you are interested in attending the live meetings, or getting involved in the space health programme itself, please contact Nina Copping: n.copping@theguyfoundation.org

Previous speakers

Professor Margaret Ahmad	Sorbonne University
Dr Clarice Aiello	UCLA
Professor Masashi Aono	Keio University
Dr Wendy Beane	Western Michigan University
Dr Afshin Beheshti	KBR at NASA Ames Research Center
Professor Jimmy Bell	University of Westminster; Scientific Advisor to The Guy Foundation
Professor Stanley Botchway	Central Laser Facility, STFC-UKRI; Scientific Advisor to The Guy Foundation
Dr Wolfgang Brysch	MetrioPharm AG
Dr Ed Calabrese	University of Massachusetts
Dr Michal Cifra	Czech Academy of Sciences
Dr Dave Ecker	Ionis Pharmaceuticals
Professor Matthew Fisher	University of California Santa Barbara
Professor Wayne Frasch	Arizona State University; Scientific Advisor to The Guy Foundation
Professor Michael Hamblin	University of Johannesburg



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Previous speakers continued...

Dr Theodore Goodson	University of Michigan
Dr Lise Hébert	Klox Technologies
Professor Judith Klinman	UCLA Berkeley
Dr Philip Kurian	Howard University; Scientific Advisor to The Guy Foundation
Professor Nick Lane	University College London
Professor Mike Levin	Allen Discovery Center at Tufts University
Dr Alasdair Mackenzie	Central Laser Facility, STFC-UKRI
Professor James Moon	Barts Heart Centre
Professor Karl Morton	University of Oxford
Dr Rhys Mould	University of Westminster
Professor Alistair Nunn	University of Westminster; Director of Science, The Guy Foundation
Professor Marco Pettini	Aix-Marseille University
Professor Martin Plenio	Ulm University
Dr Jan Pokorný	Czech Academy of Sciences
Professor Gregory Scholes	Princeton University
Professor Christoph Simon	University of Calgary
Steve Thorne	The Copernican Project
Professor Li-Heui Tsai	Picower Institute, MIT
Professor Jack Tuszyński	University of Alberta
Professor Gábor Vattay	Eötvös Loránd University
Brent Vaughan	Cognito Therapeutics
Professor Giuseppe Vitiello	University of Salerno
Professor Douglas C Wallace	The Children's Hospital of Philadelphia (CHOP)
Professor Steve Wedge	Cancer Research UK

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