



THE GUY FOUNDATION

Online symposium

## ADVANCING TERRESTRIAL HEALTH: LESSONS FROM SPACE

Wednesday 1 February 2023, 15:00hrs – 19:00hrs UK-time on Zoom

The Guy Foundation facilitates thinking and research into how quantum biology and a deeper understanding of electromagnetic effects might be able to improve our ability to practise medicine. The Foundation has long had an interest in how lessons from aerospace medicine might be applied to health on Earth and indeed to humans as a potentially multi-planetary species.

Earth has a specific set of gravitational, magnetic and electric fields. In this symposium we will explore how modulating these may result in varying physiological outcomes. Each section will be followed by Q&A.

### 3.00pm Welcome and introductions

**Professor Geoffrey Guy**, Founder and Chairman of The Guy Foundation

### 3.10pm Lessons for terrestrial health from space exploration

**Professor Alistair Nunn**, The Guy Foundation and University of Westminster ‘**Are humans trapped on Earth?**’

**Dr Afshin Beheshti**, KBR at NASA Ames Research Center ‘**Mitochondria in space - the data in a nutshell**’

### 4.00pm Electric fields

**Dr Michal Cifra**, Czech Academy of Sciences ‘**Overview of electric fields in biology**’

**Professor Michael Levin**, Tufts University ‘**Membrane potential and regeneration**’

### 4.50pm Break

### 5.00pm Magnetic fields

**Betony Adams**, University of KwaZulu-Natal ‘**Overview of magnetic fields in biology**’

**Professor Wendy Beane**, Western Michigan University ‘**Reactive oxygen species (ROS) and stem cells**’

### 5.40pm Gravitational fields

**Steve Thorne**, The Copernican Project ‘**Overview of oscillating gravitational fields in biology**’

**Dr Aenor Sawyer**, UC Space Health ‘**Microgravity and its effect on human physiology**’

### 6.30pm Closing comments and reflections

### 7.00pm Meeting close

## Registration

Please register by contacting Nina Copping: [n.copping@theguyfoundation.org](mailto:n.copping@theguyfoundation.org)

Recordings of the talks will be available on our website [www.theguyfoundation.org](http://www.theguyfoundation.org) and our YouTube channel <https://youtube.com/@theguyfoundation>

## Background to the symposium

The Foundation is interested in the role of mitochondrial function in health and disease, in particular through the concept of hormesis and the role of stress adaptation.

Gravity is a well-known hormetin. Many of the metabolic changes, including mitochondrial dysfunction, seen during space flight appear similar to the phenotype generated by a poor lifestyle, which might include unnatural shifts in circadian rhythms. This is likely accentuated by increased levels of ionising radiation that fall beyond our ability to adapt to it. It is thus possible that life on Earth is coupled not just to gravity itself, but to its photonic, electromagnetic and gravitational oscillatory signature.

In this symposium we are bringing together a broad range of expertise, balancing empirical data with hypothesis and theory, to have a fresh look at how much life is coupled to the Earth and to discuss what this might mean for optimal human health both on Earth and beyond.

## Previous speakers

<b>Professor Margaret Ahmad</b>	Sorbonne University
<b>Dr Clarice Aiello</b>	UCLA
<b>Professor Masashi Aono</b>	Keio University
<b>Dr Wendy Beane</b>	Western Michigan University
<b>Dr Afshin Beheshti</b>	KBR at NASA Ames Research Center
<b>Professor Jimmy Bell</b>	University of Westminster; Scientific Advisor to The Guy Foundation
<b>Professor Stanley Botchway</b>	Central Laser Facility, UKRI; Scientific Advisor to The Guy Foundation
<b>Dr Wolfgang Brysch</b>	MetrioPharm AG
<b>Dr Ed Calabrese</b>	University of Massachusetts
<b>Professor Michal Cifra</b>	Czech Academy of Sciences
<b>Dr Dave Ecker</b>	Ionis Pharmaceuticals
<b>Professor Matthew Fisher</b>	University of California Santa Barbara
<b>Professor Wayne Frasch</b>	Arizona State University; Scientific Advisor to The Guy Foundation
<b>Professor Michael Hamblin</b>	University of Johannesburg
<b>Dr Theodore Goodson</b>	University of Michigan
<b>Dr Lise Hébert</b>	Klox Technologies
<b>Professor Judith Klinman</b>	UCLA Berkeley
<b>Dr Philip Kurian</b>	Howard University; Scientific Advisor to The Guy Foundation
<b>Professor Nick Lane</b>	University College London
<b>Professor Mike Levin</b>	Allen Discovery Center at Tufts University
<b>Professor James Moon</b>	Barts Heart Centre
<b>Professor Karl Morton</b>	University of Oxford
<b>Professor Alistair Nunn</b>	University of Westminster; Director of Science, The Guy Foundation
<b>Professor Marco Pettini</b>	Aix-Marseille University
<b>Professor Martin Plenio</b>	Ulm University
<b>Dr Jan Pokorný</b>	Czech Academy of Sciences
<b>Professor Gregory Scholes</b>	Princeton University
<b>Professor Christoph Simon</b>	University of Calgary
<b>Steve Thorne</b>	The Copernican Project
<b>Professor Li-Heui Tsai</b>	Picower Institute, MIT
<b>Professor Jack Tuszyński</b>	University of Alberta
<b>Professor Gábor Vattay</b>	Eötvös Loránd University
<b>Brent Vaughan</b>	Cognito Therapeutics
<b>Professor Giuseppe Vitiello</b>	University of Salerno
<b>Professor Douglas C Wallace</b>	The Children's Hospital of Philadelphia (CHOP)
<b>Professor Steve Wedge</b>	Cancer Research UK