



THE MEDICAL SOCIETY OF LONDON
FOUNDED 1773

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Dear Fellow,

The next meeting will be held at 8.00pm on 12th November 2018 when Professor Nick Lane PhD will speak on

**HOW DEEP EVOLUTIONARY HISTORY CAN
AFFECT HUMAN HEALTH**

Nick Lane is Professor of Evolutionary Biochemistry in the Department of Genetics, Evolution and Environment at University College London. His research is about how energy flow shapes the broad sweep of evolution, focusing on the origin of life and improbable emergence of complex cells. He has published more than 80 papers in top journals including Nature, Science and Cell. He is a regular contributor to TV and radio as well as scientific and literary festivals. Professor Lane's work was recognised by the 2015 Biochemical Society Award for his outstanding contribution to the molecular bio-sciences, and the 2016 Royal Society Michael Faraday Prize, the UK's premier award for excellence in communicating science.

The lecture will explain that Life on Earth has a peculiar history. Over four billion years of evolution, with virtually infinite population sizes, bacteria have explored metabolic sequence space, yet never evolved great morphological complexity. In contrast, eukaryotes are limited in their metabolic diversity, but instead explored the realm of morphological space. Why? I shall suggest that the answer does not lie in genes and information but in energy flow, and specifically in the universality of membrane bioenergetics across all life on Earth. The requirement for genes to control membrane bioenergetics can explain not only the morphological limitations of bacteria and the singular origin of eukaryotes, but also the deep conservation of perplexing eukaryotic traits, from the nucleus to sex. I will show how selection for mitochondrial quality still determines many aspects of our physiology, including fertility and lifespan.

There will be a Buffet Supper at **6.45pm**. The cost of the evening, to include the lecture and supper will be **£34 per person**. If you wish to attend the supper please send your cheque to reach the Registrar at the above address by **THURSDAY, 8th NOVEMBER 2018** accompanied by the attached slip or pay by Bacs and email to inform us you have done so. **Please note that orders cannot be accepted for suppers after 12 noon on the Friday before a Monday meeting.**

Brigadier Ivan Houghton, MA MD BChir LLB LLM BSc

Professor Clara Lowy MD MSC FRCP

Honorary Secretaries

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To The Registrar, 11 Chandos Street, London, W1G 9EB

I wish to attend the Buffet Supper on **12th NOVEMBER 2018** and enclose my cheque payable to "The Medical Society of London" for..... (**£34 per person**) for myself andguest. **Bacs details Sort Code 20 36 88 Acct No 00756741 (Please put your name & date of supper as reference and email your intention to be present)**

I wish to attend lecture only.....E.mail address:.....

Daytime tel. no..... Name (Capitals).....

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