



An Academy scientific meeting taking place on 6 December 2002 at the Institute of Child Health, 30 Guilford Street, London WC1N 1EH

Darwinian medicine applies the principles of evolutionary biology to the problems of medicine. The evolution of antibiotic resistance is an established example that proves more complex and interesting in the light of neo-Darwinism. In addition to using evolution to understand infection, Darwinian medicine also asks why natural selection has shaped a body that is vulnerable to disease. It turns out that there are only a few possible answers. One major explanation is that we are live in an environment very different from the one in which we evolved. Another is that natural selection does not shape organisms for health, except as that contributes to reproductive success. The old view that the body is imperfect because of the limits of natural selection is certainly correct, but this explains relatively few of the body's vulnerabilities. More are explained by the trade-offs that characterize all systems and the particular constraints on systems shaped by natural selection. Finally, an evolutionary view highlights the utility of many apparent problems, such as cough, fever, pain and vomiting. Together, these explanations for disease offer a robust framework for understanding what disease is, and new approaches to prevention and treatment. These issues will be addressed in this interdisciplinary meeting organised by Professor Mel Greaves and Professor Randolph Nesse.

MORNING SESSION: chaired by Professor Mel Greaves FMedSci

- 09.15 Registration
- 09.45 Welcome and introduction
- 10.00 *Darwinian medicine and the problem of suboptimal design*
Professor Randolph Nesse, Department of Psychiatry, Senior Research Scientist, ISR University of Michigan, USA
- 10.40 *The evolutionary legacy of infectious disease*
Professor Sir David Weatherall FMedSci, Weatherall Institute of Molecular Medicine, University of Oxford, UK
- 11.20 coffee
- 11.45 *Evolutionary health promotion*
Professor S Boyd Eaton, Department of Anthropology and Radiology, Emory University
- 12.25 *Evolutionary aspects of virulence, resistance and susceptibility*
Professor Stephen C Sterns, Department of Ecology and Evolutionary Biology, Yale University, USA
- 13.05 Lunch (provided)

AFTERNOON SESSION: chaired by Professor Randolph Nesse

- 14.15 *A Darwinian eye-view of cancer*
Professor Mel Greaves FMedSci, Leukaemia Research Fund Centre, Institute of Cancer Research, London, UK
- 14.55 *Viruses and virulence*
Professor Robin A Weiss FMedSci, Professor of Viral Oncology, University College London, UK
- 15.35 tea
- 16.00 *Are theories of intra-genomic conflict useful?*
Professor Laurence D Hurst, Department of Biology and Biochemistry, University of Bath, UK
- 16.40 *An evolutionary perspective on ageing and the search for its remedies*
Professor Steven N Austad, Department of Biological Sciences, University of Idaho, USA
- 17.20 Discussion session: *The relevance of evolution to medical training and practice*
Chaired by Professor Richard Dawkins with Dr John A Lee, Department of Pathology, Rotherham General Hospitals NHS Trust, Professor Bill Bynum, Wellcome Trust Institute for the History of Medicine and Professor Lewis Wolpert, UCL, Department of Anatomy.
- 18.00 Drinks reception

The Academy gratefully acknowledges the support of The Institute of Cancer Research, The Kay Kendall Leukaemia Fund and the Kaplan Foundation for this meeting. More information can be found at www.acmedsci.ac.uk or www.darwinianmedicine.org.

The Academy of Medical Sciences was established in 1998 to act as an authoritative body to promote medical science across traditional boundaries. The Academy campaigns for better structures in support of the medical sciences, promotes excellence in research, provides scientific advice, encourages better communication of science and provides quality services to its Fellowship. The Academy draws its authority from its elected Fellowship of 700 top medical scientists who may use the suffix FMedSci.



The **Academy of
Medical Sciences**

SCIENTIFIC MEETING EVOLUTION AND DISEASE

6 December 2002, Institute of Child Health, 30 Guilford Street, London

REGISTRATION FORM

Name, including title: please print clearly

Contact address

Contact email and telephone number

I shall attend the meeting on 6 December 2002

*I enclose a cheque for **£75.00** made payable to **The Academy of Medical Sciences**
Ticket includes admission to scientific presentations, lunch and drinks reception.*

I am student or house officer and request to be considered for one of the 15 tickets available without charge. I enclose a one page statement summarising my current position, background and relevant interests. Notification will be sent via email the week of November 25.

Information supplied on this form will be held by the Academy to facilitate future bookings and to inform you of other Academy events. We will not disclose your details to a third party. Please tick this box if you do not wish information to be supplied to us to be used in this way. If ticked, your name will not be included on an attendance list handed out at this event.

Please complete and return this form and payment by 22 November to:

**SUSAN WICKS, FELLOWSHIP AND EVENTS OFFICER
THE ACADEMY OF MEDICAL SCIENCES
10 CARLTON HOUSE TERRACE
LONDON SW1Y 5AH**

Tickets will be sent out to delegates week commencing 25 November

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The Academy of Medical Sciences, 10 Carlton House Terrace, London SW1Y 5AH
T: 020 7969 5288 F: 020 7969 5298 Email: Apollo@acmedsci.ac.uk