

The Royal Society of New South Wales

Southern Highlands Branch ◆ 18th February 2016 Lecture



Charley Lineweaver



Charley Lineweaver is Professor of Research School of Astronomy and Astrophysics and Earth Sciences at ANU, and Senior Fellow at the Planetary Science Institute at Mount Stromlo Observatory. ACT.

Charley obtained an undergraduate degree in physics from Ludwig Maximilians Universitat, Munich, Germany and a PhD in Astrophysics from the University of California at Berkley. He

was a member of the COBE satellite team that discovered the temperature fluctuations in the cosmic microwave background.

Before his appointment at ANU he held a post-doctoral position at Strasbourg Observatory and the University of NSW, where he taught one of the most popular general studies courses *Are We Alone?*

Charley Lineweaver is an astrophysicist and a cosmobiologist who takes Darwinian evolution more seriously than most post-Cambrian biologists.

Topic: Death and Nothingness

For the first billion years of life on Earth, cells reproduced by binary fission. One cell divided into two. Cells could be killed, but there was no programmed death. There was no set life span analogous to the ~ 100 years that many of us aspire to. The evolutionary origin of death is intimately intertwined with the origin of sex. Death of a somatic individual and meiotic sex evolved together about 2 billion years ago when what we now call somatic cells began to differentiate from germ line cells -- a Faustian bargain that seems to have paid off for the immortal germline. Alas, most of us are only capable of self-identifying as soma. Additionally, there is an on-going controversy in biology about whether the life span of an individual eukaryote is the result of i) unavoidable obsolescence: wearing out, or breaking down or ii) an evolved, adaptive built-in obsolescence. I will argue for ii).

Charley wants us to rethink our place in the universe. In this entertaining talk, Charley explores what he sees as the flawed logic of much of what we think about our evolution, and asks the big questions:

DATE: Thursday 18th February 2016
TIME: 6.30pm – Doors Open 6pm
VENUE: Performing Arts Centre
Chevalier College (enter off Charlotte Street, Burradoo)
PRICES: *Lecture Only:* Non-members \$10 | RS Members \$5

Following the lecture, there will be a dinner with the lecturer, open to members and non-members. **Bookings for dinner can be made by phoning Hub Regtop on 0411 192 917 before the 16 February 2016.**

