



Centre for Ecology and Evolution

CEE Event – Darwin's Birthday Debate

Wednesday 13th February 2019

16:00 to 19:00

Flett Lecture Theatre,
Natural History Museum, Exhibition Road,
London, SW7 5BD

Agenda

- 16:00 Event opens
- 16:15 Welcome and Introduction by Professor Anjali Goswami
- 16:30 Talk 1 by Professor Anne Stone
- 17:00 Talk 2 by Professor Virpi Lummaa
- 17:30 Questions and discussion
- 18:00 Wine Reception and Informal Networking
- 19:00 Event finishes

The next stage of human evolution

Speakers:

Professor Anne Stone

Arizona State University, USA

Website: <https://stone.lab.asu.edu/>

Twitter: [@StoneLab ASU](https://twitter.com/StoneLab_ASU)

Professor Virpi Lummaa

University of Turku, Finland

Website: www.human-life-history.science/

Twitter: [@HumanLiHisGroup](https://twitter.com/HumanLiHisGroup)

Abstracts:

Professor Anne Stone

Title: The future of human evolution: we are what we eat if we survive the pathogens we keep?

Abstract: We can gain insight into the future of human evolution by looking at our past. Research in my laboratory focuses on evolutionary history and understanding how humans and other primates have adapted to their environments, including their disease and dietary environments. I will discuss how we use genetic data to understand how diet and disease have shaped our genomes and affected our population history.

Speaker bio: Anne Stone is Regents' Professor in the School of Human Evolution and Social Change at the Arizona State University. Currently, her research focuses on population history and understanding how humans and the great apes have adapted to their environments, including their disease and dietary environments. This includes: (a) Native American population history, (b) the evolutionary history of the Great Apes, and (c) understanding the evolutionary history of mycobacteria (specifically the causative agents of tuberculosis and leprosy). Stone has been a Fulbright Fellow (1992-93), a NIH NRSA postdoctoral fellow (1997-1998), and a Kavli Scholar (2007). She is a fellow of the American Association for the Advancement of Science (2011) and a member of the National Academy of Sciences (2016). Stone currently serves as a senior editor of *Molecular Biology and Evolution*.



Professor Virpi Lummaa

Title: Natural selection – now!

Abstract: The Industrial Revolution and the accompanying nutritional, epidemiological and demographic changes have profoundly changed human ecology and biology, leading to major shifts for example in our disease patterns, lifespan, family size or age at puberty. These recent social and cultural adaptations have cast doubt on the continued relevance of Darwinian selection in humans – we now have modern medical care and effective contraceptive methods so does that mean evolution by natural selection has stopped? I will discuss how mismatches between past adaptations and the current environment mean that gene variants linked to higher fitness in the past may now predispose us to non-communicable diseases, such as Alzheimer disease, cancer and coronary artery disease. Moreover, in both traditional and industrialized societies, differences among individuals still lead to selection favouring certain heritable traits because although survival to old age can be high, not everyone has the same family size and many forego reproduction altogether. In line with this, increasing evidence suggests that the transition to modernity has also altered the direction and intensity of natural selection acting on many traits, with important implications for public and global health.

Speaker bio: Virpi Lummaa studies natural selection in contemporary human populations. Lummaa investigates how the modern environment itself fuels human evolution and how demographic shifts to low birth and death rates affect the opportunity for selection or specific trait selection. She uses longitudinal demographic data from Finland spanning 350 years and more than twelve generations to look at how the strength and direction of selection on key fitness traits may have changed with the modernisation of societies. Lummaa has an impressive scientific record. For example, in her studies on humans, she has applied new methods and techniques that previously have mostly been used to study wild animals. Lummaa has also received a number of international recognitions for her work in the field of human evolution. She also actively disseminates the results of her research to policy-makers and the general public.



Directions:

Entrance to the Flett Lecture Theatre can only be gained by entering NHM via the Exhibition Road Entrance. Attendees are asked to inform security that they are here for the Darwin's Birthday debate and they will be let into the museum. The Flett lecture theatre is at the top of the stairs, through the glass doors on the left-hand side.

A map highlighting the Exhibition Road entrance can be found below.

