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LICHFIELD **GARRICK**
Theatre & Studio

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8:00 pm on Tuesday 11th March 2014
in the Studio Theatre of the Lichfield Garrick, Castle Dyke, Lichfield

The Origin of Complex Life

Dr Nick Lane

Reader in Evolutionary Biochemistry,
Department of Genetics, Evolution and Environment,
University College London

Animals and plants are examples of eukaryotic organisms, those whose cells contain a nucleus and other structures enclosed within membranes. All eukaryotic life on Earth shares a common ancestor that arose just once in 4 billion years of evolution. This was apparently a biological accident in which a bacterial host cell engulfed another bacterium of a genetically distinct type to form a chimera, the ancestor of mitochondria. Dr Lane will discuss the singularity of eukaryotic origins, and why mitochondria enabled the evolution of enormous genomic complexity, while simultaneously forcing the evolution of many curious eukaryotic traits, from programmed cell death to two sexes.

Dr Lane's research is on evolutionary biochemistry and bioenergetics, focussing on the origin of life and the evolution of eukaryotes. He was awarded the inaugural UCL Provost's Venture Research Prize in 2009 and the BMC Research Award for Genetics, Genomics, Bioinformatics and Evolution in 2011. He leads the UCL Research Frontiers Origins of Life programme and is a founding member of the UCL Consortium for Mitochondrial Research. Nick has published some 60 papers, including research articles in *Nature*, *Cell* and *Science*, and three critically acclaimed books, the latest of which, *Life Ascending*, won the 2010 Royal Society Prize for Science Books. His works have been translated into 20 languages, and he was described by the *Independent* as "one of the most exciting science writers of our time."

For further information, please see our website at www.LSES.org.uk

Admission: Visitors £5.00, Students and Members free but please sign in.
Tickets are not issued in advance: visitors please pay at the auditorium door.
This lecture is expected to finish by 10.00 pm.