

**Monday, April 26, 2010**  
**POSTER SESSION: EVOLUTION OF INTELLIGENT LIFE**  
**6:00 p.m. Marina Plaza Ballroom**

Reiswig B. Schulze-Makuch D.

[\*Flight: A Recurrent Theme for Advanced Civilizations?\*](#) [#5015]

Ancient evidence for flying machines is widespread, suggesting that ancient aircraft may have existed. Thus, flight may be a recurring theme for humankind, and possibly for intelligent species that may have developed elsewhere in our universe.

Antonio M. R. S. Schulze-Makuch D.

[\*Social Structure: The Key to an Intelligent Lineage\*](#) [#5111]

Social structure is likely to be the most important factor in the development of complex behavior. Social stability needs to be achieved in order for the investment in acquisition and transmissibility of knowledge becomes favorable.

Lineweaver C. H.

[\*Drifting Continents, Paleoneurology and the Planet of the Apes Fallacy\*](#) [#5238]

Three lines of evidence suggest that human-like intelligence is not a convergent feature of biological evolution. I explain the Planet of the Apes Fallacy and show why it is a fallacy.

Waters D. P.

[\*The Linguistic Model in Biology: Implications for Recognizing Life and Intelligence\*](#) [#5368]

Early molecular biologists relied on a “linguistic metaphor,” still heard in terms like “transcription” and “translation.” This deeply-rooted metaphor may help astrobiologists understand how to recognize forms of life elsewhere in the universe.

Waller S.

[\*Philosophical, Psychological, and Ethological Approaches to the Search for Intelligence\*](#) [#5419]

How we define intelligence determines how we will look for it, as well as what explanatory approaches we will accept. This paper discusses the gaps between disciplines that study intelligence, and seeks to develop a more complete and expansive understanding of intelligence.

Schwartzman D. W. Middendorf G.

[\*Multiple Paths to Encephalization and Technical Civilizations: Constraints Inferred from the Biosphere's Evolution\*](#) [#5465]

Two possible evolutionary paths should be considered for the emergence of intelligent life with the potential for technical civilization, encephalization in warm blooded animals, and swarm intelligence in superorganisms (e.g., termite colonies).

Lower T. A.

[\*Modeling Evolutionary Change in Human Intelligence\*](#) [#5496]

A multivariate normal distribution model for predicting evolutionary change in intelligence within a species is described, based on the Flynn Effect, culture, and other phenomena known to impact intelligence.