

# Aliens probably look a lot like us earthlings, scientist says

By Mike Woods/Toledo Blade

Anaheim, Calif.

Forget all those fanciful Hollywood notions about the bizarre appearance of extraterrestrial beings.

E.T., if he or she exists, actually may look much like an ordinary human being.

That is the conclusion of an international authority on the origins of life who has reported the first scientific evidence that life may be fundamentally similar throughout the universe.

"When we do land on a planet some

where, some day, don't be surprised if somebody walks up to shake your hand," Dr. Cyril Ponnampereuma said.

Ponnampereuma is director of the University of Maryland's Laboratory of Chemical Evolution. The lab has pioneered research on how life might have originated from spontaneous chemical reactions among chemicals that existed on earth billions of years ago.

The Maryland group previously established that the key components of all biological molecules — amino acids and bases that make up the

genetic materials DNA and RNA — could have formed spontaneously in the earth's primordial atmosphere.

Ponnampereuma and his associates reported their latest findings at the 192nd national meeting of the American Chemical Society, being held in Anaheim recently.

They have evidence that the so-called genetic code, which determines the chemical composition and appearance of all living things, did not appear by chance — as some scientists have argued. This literal code of life consists of 64 "codons," which are groups of three

chemicals called nucleotides. Each codon tells the cell to use a specific amino acid in the construction of a protein, spelling out exactly what kind of protein will be produced.

The ultimate result is a complete organism that turns out to be an oak tree rather than a maple, for example, or a person with black hair rather than blond.

Ponnampereuma and his associates used a sophisticated series of experiments to establish that the coding process is not arbitrary. Rather, there seems to be an intrinsic, mandatory relationship between each

codon and amino acid.

"In effect, there is a natural tendency, like that of water to run downhill, for the genetic code to spell out words the same way every time," Ponnampereuma said. "It is demanded by the chemistry of these compounds. With the same chemical elements believed to exist throughout the universe, there is a strong likelihood that the genetic code can spell out proteins only in the way known on earth."

He thus argues for the existence of a basic chemical similarity in living things throughout the universe.

Chemical similarity, he believes, means physical similarity that would make extraterrestrial beings remarkably like human beings.

Likewise, Ponnampereuma said there may be such compelling evolutionary advantages to a body format like that of humans — two legs, two arms, two eyes about 5 feet above ground level — that it may be a truly universal format.

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