SETI may be looking in the wrong places: astronomer

August 24 2010, by Lin Edwards

(PhysOrg.com) -- A senior astronomer with the Search for ExtraTerrestrial Intelligence (SETI) Institute, Dr Seth Shostak, has reported in an article published online that perhaps we should be seeking alien "life forms" that are thinking machines instead of concentrating the search on biological life forms.

Dr Shostak said current experiments aiming to locate extraterrestrial intelligence all assume it is most likely to be found on "habitable worlds" with liquid surface water and light gaseous atmospheres, in other words, worlds that could support life similar biochemically to that on Earth.

The problem with this assumption is that the development of artificial intelligence may come soon after the invention of communication technologies, as it has for us, which means SETI's targeted searches may

be "chasing a very short-lived prey," Dr Shostak said. We have a chance of detecting extraterrestrial intelligences once they invent radio and go on the air, but within a few hundred years they are likely to invent their thinking machine successors.

Like many other researchers, Shostak is unconcerned about the kind of extraterrestrial intelligence we find, and therefore restricting the search to biological life forms is unnecessarily limiting. The odds of finding artificial intelligence are greater than finding intelligent biological life, he said, although the decoding of any messages from a sentient machine might be more difficult than signals from a biological source.

SETI has been searching for radio signals from other planets and moons for 50 years, and its researchers have realized that as our technology is rapidly advancing, so might that of other civilizations, so we are searching for an evolutionary moving target.

Dr Shostak suggested the search for artificial intelligence should focus for at least some of the time on places were matter and energy are plentiful, such as young, hot stars, or near the center of galaxies, since these places would be of more interest to intelligent machines, even though they would be inhospitable for biological life forms.

The article was published online in *Acta Astronautica* on 7 July. Shostak also presented his ideas in Daejeon in the Republic of Korea in October 2009 at the 60th International Astronautical Congress.

More information: What ET will look like and why should we care, *Acta Astronautica*, Volume 67, Issues 9-10, November-December 2010, Pages 1025-1029. doi:10.1016/j.actaastro.2010.06.028