

49th IAA SYMPOSIUM ON THE SEARCH FOR EXTRATERRESTRIAL INTELLIGENCE (SETI) –  
The Next Steps (A4)  
SETI 2: SETI and Society (2)

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SEARCH FOR EXTRATERRESTRIAL LIFE AND INTELLIGENCE – A STUDY ON NON-WATER  
BASED LIFE

## Abstract

Man kind has been fascinated with the possibility of extraterrestrial life and intelligence since we launched the first spacecraft . We are mainly searching for the possibility of water on alien planets but there may be another substitute for it in the form of ammonia. Like water, ammonia is ionic and it dissolve many substances. Ammonia is a liquid below 239.8 K and it can remain a liquid at room temperature if the atmosphere of a planet is much higher than that of the Earth. This can increase the habitable range of the planet. If an ammonia-based life exists then nitrogen may replace oxygen as the gas required for aerobic life. Similarly, methane-based life can also exist on other planets or moons. If such life is intelligent enough then it will have the capacity to change the composition of its planet's atmosphere. We can detect this by doing the spectroscopy of the planet's atmosphere. If a highly advanced civilization exists then they might build a Dyson sphere around their star thereby decreasing the luminosity of it when observed by us.