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VATICAN CONSIDERS LIFE ON OTHER PLANETS

Holy See Hosts Study on Astrobiology

VATICAN CITY, NOV. 10, 2009 ([Zenit.org](http://www.zenit.org)).- Both scientists and believers posit that life is a "special outcome" in a "vast and mostly inhospitable universe," and to study this common understanding, the Vatican brought together an interdisciplinary group of scholars to work on and study astrobiology.

The conclusions of the five-day work-study were presented today by a Jesuit priest and leading professors from Italy, France and the United States.

"Astrobiology is the study of life's relationship to the rest of the cosmos," one of the professors explained. "Its major themes include the origin of life and its precursor materials, the evolution of life on earth, and its future prospects on and off the earth."

The Pontifical Academy of Sciences and the Vatican Observatory hosted the study days. Presenting the conclusions today were Jesuit Father José Funes, director of the Vatican Observatory; Jonathan Lunine, professor at the department of physics in Rome's Tor Vergata University; Chris Impey, professor at the department of astronomy in the University of Arizona and the Steward Observatory, Tucson; and Athena Coustenis, professor at the "Observatoire de Paris-Meudon," in France.

Father Funes explained that the Vatican is involved in astrobiology because, although it is "an emerging field and still a developing subject, the questions of life's origins and of whether life exists elsewhere in the universe are very interesting and deserve serious consideration. These questions offer many philosophical and theological implications."

Hub of scholars

Lunine said the study days provided a "special opportunity" since it was interdisciplinary and gave scientists the chance "to spend an intensive week understanding how the work in their particular specialty might have an impact on, or be impacted by, that in other areas."

"Nowhere is this more evident than in the work being done on how life formed on the earth and evolved with the changing environment," he observed. "It is becoming clear that Earth's climate has not been particularly stable over time, and major environmental crises have occurred that are documented in the geologic record.

"How life has responded to this, and what the implications might be for Earth-like planets around other stars with somewhat different histories, cuts across all the disciplines of astrobiology from astronomy, to planetary and geological sciences, to biology."

Self-image

Impey spoke of the possibilities of life outside of Earth.

"In the past 15 years, technological breakthroughs have led to the discovery of over 400 planets beyond the solar system," he explained, noting that the smallest of these is "not much more massive than the Earth."

"Meanwhile," the Arizona-based professor continued, "lab experiments have made progress in tracing the processes by which simple chemical ingredients might have evolved into cells about four billion years ago, and scientists have discovered life in surprisingly diverse, inhospitable environments on the Earth. It is plausibly estimated that there are hundreds of millions of habitable locations in the Milky Way, which is just one of billions of galaxies in the universe."

"We still only know of one planet with life: our own. But there is a palpable expectation that the universe harbors life and there is hope that the first discovery is only a few years away," the scholar suggested."

Impey acknowledged that making contact with an intelligent species in space would have profound implications for our self-image.

"It is appropriate that a meeting on this frontier topic is hosted by the Pontifical Academy of Sciences," he stated. "The motivations and methodologies might differ, but both science and religion posit life as a special outcome of a vast and mostly inhospitable universe. There is a rich middle ground for dialogue between the practitioners of astrobiology and those who seek to understand the meaning of our existence in a biological universe."