



The mysteries of the Milky Way

The immensity of the universe has captivated mankind since immemorial times and even the most primitive civilizations determined their destinies based on astronomical observations. Today, scientific and technological advances allow astronomers to observe and analyze the universe with high precision, thus revealing the mysteries hidden in outer space.

Dr. Dante Minniti, Director for the Doctorate Program in Astrophysics, Faculty of Exact Sciences at Universidad Andrés Bello, leads a diverse line of research that aims to discover the secrets that universe still keeps.

One of these investigations is an international collaboration, the objective of which is to map the Milky Way, the galaxy that harbors our solar system. This research will reveal a number of characteristics about the Milky Way, such as its tridimensional structure.

The first stage of this project consists in a six year period of astronomical observations using the VISTA telescope, located at the Paranal Observatory in Chile. From these images, Dr. Minniti and his team will begin to study the most unknown areas of our galaxy.

"We work with infrared wavelengths that, although invisible to us, can penetrate all of the cosmic dust and gas clouds that prevent us from seeing a complete panoramic image of the universe. It is like opening a new window to our galaxy," explains Dr. Minniti.

This research has already provided initial results that were recently published in a high-ranking international scientific journal. This published study details the existence of young stars (less than 100 million years old) in the central region of the Milky Way.

"We have [also] found 655 variable star candidates termed Cepheids. These stars are able to expand and contract in periodic cycles, thus changing in brightness," highlights Dr. Minniti.

Dr. Minniti also comments that another of his passions is the search for planets outside of our solar system, a task he undertakes by using the best telescopes in Chile. "This is very interesting because we all want to find another Earth or to know if there is life in the universe. While this does not have an immediate application, who knows what we may discover in the future," concludes Dr. Dante Minniti.