

## **Hawking Lifetime Achievement Lecture**

Close to a hundred secondary and tertiary students attended a public lecture on the life and work of Stephen Hawking, renowned British theoretical physicist, cosmologist and author, at UniFiji's main hall on April 20 this year.

The event, organized by the Science Department at The University of Fiji in collaboration with the South Pacific Physics Society (SPPS) to celebrate the life of Professor Stephen Hawking, who passed away on March 14 this year at his home in Cambridge, England at the age of 76.

The lecture was introduced by Ms. Dhrishna Charan, who spoke about Professor Hawking's life and revealed that he had been wheel-chair bound from the age of 21. Despite his extreme physical handicap and predictions by doctors of a short life, he continued his quest for new knowledge about the universe throughout the rest of his living years. He was described by millions as one of Science's brightest minds and a visionary physicist.

In his presentation, Professor Anirudh Singh from the School of Science and Technology began by introducing the four main fields of gravitation, cosmology, quantum theory and thermodynamics of mainstream physics that were brought together by Stephen Hawking in his work. He showed how Einstein's General Theory of Relativity explained the curvature of space and predicted the existence of space-time singularities and black holes. He next introduced Quantum Theory and its prediction of the existence of virtual particles in the vacuum, and showed how the Second Law of Thermodynamics revealed that entropy always increased in the universe.

Professor Singh next showed how Stephen Hawking brought these major streams of physics together with the Big Bang Theory of the universe to explain its existence and behaviour. Through such a union, Hawking was able to show that the universe did have a beginning as a space-time singularity, and that Black holes could radiate energy in the form of Hawking radiation. Hawking also theorized that the early universe was made up of mini-black holes that absorbed particles from the surroundings, were heated up and eventually exploded.

In addition to his excellence in physics and cosmology, Hawking was also a very popular author. The publication of his book, *A Brief History of Time*, in 1988 became an instant best-seller, and remained at the top of the list for several years.

The forty-minute lecture received rapturous attention from the audience throughout its delivery, and was followed by an open forum for discussions.