Abstract
The Universe is manifestly composed of matter, and there are no regions composed of antimatter. This asymmetry was surprising before the discovery of the breaking of the symmetry between matter and antimatter at the microscopic level. After that discovery, Sakharov set down the conditions that would allow the universe to develop large scale matter antimatter asymmetry. This challenged theoretical physicists to explain the baryon asymmetry of the Universe in terms of the Standard model of particle physics or its extensions. The lack of an explanation in terms of the standard model is one of the powerful arguments for a new, as yet undiscovered, source of matter-antimatter asymmetry in particle physics, and is a strong incentive for the development of new experiments to find it.

About the Speaker
Professor Bruce McKellar is the chair of the International Council of Science Regional Committee for Asia and the Pacific. He was the Professor of Theoretical Physics at Melbourne University, a Vice President of the Australian Academy of Sciences and of the International Union of Pure and Applied Physics. He has taught short courses on ethics and scientific research for graduate students and for professional scientists.