Professor Roy Kerr elected as Royal Society Fellow

The New-Zealander Professor Roy Kerr, mathematician and physicist, holding the Yevgeny Lifshitz Chair at ICRANet and *Crafoord Prize in Astronomy 2016* "*for his fundamental work on rotating blacks holes and their astrophysical consequences*", has been nominated Fellow of the Royal Society (UK) for his exceptional contributions to science, placing him among the world's most eminent scientists.

The Royal Society awarded Professor Kerr this high and prestigious title "*for the solution of Einstein's equations of General Relativity for rotating black holes, an epochal result now known as the Kerr metric, describing Kerr black holes. Other major contributions include prescient work on algebraically special solutions of reduced holonomy.*"

In fact, Prof. Roy Kerr discovered in 1963 an exact solution to the Albert Einstein's equations on General Relativity of a rotating object: "*This mathematic solution* – recalls the ICRANet Director Prof. Remo Ruffini – *has allowed fundamental unprecedented advances in the applications in the fields of Physics, Astronomy and Relativistic Astrophysics: the applications extend to the field of the micro-physics of the elementary particles, such as the structure of the electron, to the astrophysics of Black Holes, which arise at the end of a star evolution, up to the most energetic processes in the universe, such as GRBs and the active galactic nuclei, where Black Holes and maxi-Black Holes, up to billions of times greater than our sun, dominate."* It was indeed Remo Ruffini with John Archibald Wheeler who used the Kerr mathematic solution, introducing it in the description of the fundamental physics processes, giving them the name of "Black Hole", which has been then translated in all languages worldwide (Physics Today, 30, 1971). These topics have been further investigated by Blandford and Znajek (MNRAS, 179, 433, 1977) following an article by Ruffini and Wilson (Phys. Rev. D 12, 2959,1975).

Kerr's discovery sparked a revolution in physics and, since then, his work proved of great importance and all subsequent detailed work on black holes has depended fundamentally on it.

In 2006 Prof. Roy Kerr got the *Marcel Grossmann Award* (see the related Wikipedia page and the ICRANet booklet on MG11 Award) on the occasion of the institutional international meeting for relativistic astrophysics that takes place every three years in a different country. Prof. Roy Kerr has been teaching at ICRANet within the IRAP PhD program, the first International joint Doctorate, founded by ICRANet and internationally coordinated by the University of Nice "Sophia Antipolis".

Professor Kerr has also been in the news this month after astronomers captured the first image of a black hole, attentively interpreted within ICRANet.

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