



**PROF. RUFFINI PRESENTS IN A SERIES OF LECTURES IN MEXICO, IN WASHINGTON DC,  
AND IN BRAZIL A RECENT FUNDAMENTAL DISCOVERY OF ICRANET SCIENTISTS**

*That two neutron stars coalesce to form a Black Hole is the subject of a publication by ICRANet scientists which has appeared today (<https://arxiv.org/abs/1607.02400v2>) and has just been accepted for publication in the most prestigious Astrophysical Journal. This gives the first evidence for the precise moment of formation of a Black Hole from two coalescing neutron stars.*

Prof. Remo Ruffini, Director of ICRANet (see <http://www.icranet.org/>), has presented this epochal result at the Mexican Academy of Science and Arts of Mexico City, giving the opening lecture at the Sixth International Meeting Leopoldo Garcia – Colin. The first edition of Leopoldo Garcia – Colin, held on September 2001, was promoted by the Universidad Autónoma Metropolitana (see <http://www.uam.mx/>), Iztapalapa Campus, with the aim of creating a forum based on discussions in the field of Physics and related areas (gravitational waves, cosmology, statistics and biological physics) sustained by the objective of building new possibilities for Mexican researchers and promising students for their research activity. This sixth meeting held from September 5 to 9, is composed every day by a keynote plenary lecture and three parallel symposiums that focus on: a. Approaching black hole horizon; b. Quantum mechanics frontiers; c. Experiments in applied physics.

In his opening lecture Professor Ruffini has illustrated the results of the recent research of ICRANet on “Supernovae, Hypernovae e Binary Driven Hypernovae” and explained the concept of gravitational collapse of a neutron star companion induced by an exploding supernova (See Fig. 1 and Fig. 2), as well as the binary neutron star merging which is the subject of the publication in Astrophysical journal just announced today (see <https://arxiv.org/abs/1607.02400v2> and Fig. 3): one of the most distant and complex system in our Universe (see the complete presentation at: <http://www.icranet.org/ruffini-mexico>).

The meeting illustrates, in the next days, the Mexican participation of the Horizon Telescope and of the HAWC Observatory (see <http://www.hawc-observatory.org/>) and move to Gravitational Waves and Event Horizon Telescope (see <http://www.eventhorizontelescope.org/>). The topic of Black Holes and Gravitational Lenses, as well as “supermassive” Black Holes and Sagittarius A, will be chaired by Scott M. Ransom of the National Radio Astronomy Observatory (NRAO, see <https://www.nrao.edu/>) in USA. Other discussions will follow on: quantum mechanics frontiers, experiments on materials physics and applied physics, tissue engineering, soft matters, plasma polymerization, dark matter, relativistic compact objects, for a total of 80 contributions divided in three parallel seminar sessions.

Professor Ruffini has also discussed with the Mexican colleagues and with the Ambassador of Italy, Alessandro Busacca, the selection of a Seat for the entrance of Mexico into ICRANet and the participation of Mexican students in the ICRANet coordinated IRAP-PhD (<http://www.icranet.org/irap-phd>).

On the 12<sup>th</sup> of September Professor Ruffini will be presenting these new scientific results of ICRANet in the prestigious Cosmos Club in Washington DC (see <https://www.cosmosclub.org/>) at the monthly meeting of the astrophysics working group. On the 13<sup>th</sup> of September he will give a colloquium in Rio de Janeiro at the CBPF (see <http://www.cbpf.br/>), which host the ICRANet Seat in Brazil as a state Member.



*ICRANet*

Fig. 1: Scheme depicting the hypercritical accretion and the induced gravitational collapse in a binary system.

Fig. 2: Space-time diagram illustrating qualitatively the different stages of the sequence of events which occurs in a binary driven hypernova.

Fig. 3: Prof. Ruffini at the ICRANet Seat in Rome with ICRANet Faculty Members and IRAP-PhD students just after having obtained the results which led, among others, to this publication.