1st Scientific ICRANet Meeting in Armenia: Black Holes: the largest energy sources in the Universe
June 30 - July 4, 2014 - Yerevan (Armenia)

The Physics of Black Holes dominates some of the most energetic astrophysical phenomena in the Universe. The formation of a Black Hole appears to be related to the emission of a Gamma Ray Burst (GRB), the most energetic transient phenomena in the Universe. The basic mechanism appears to be the creation of electron positron pair plasma occurring by vacuum polarization process around a Kerr-Newman Black Hole by the Heisenberg-Euler-Schwinger mechanism. An effort for reaching such an extreme electromagnetic quantum regime is being currently approached also in MegaJoule Laser Projects in Europe, Russia, USA. In addition a prolonged emission appears to be related to rotating electromagnetic Black Holes in microquasars. The presence of Supermassive Black Holes (SMBHs) of $10^6 - 10^9$ solar masses appears to be related to active galactic nuclei, Blazars and Quasars. There is the possibility that, unlike the stellar mass Black Holes, which are formed by the gravitational collapse of baryonic matter, the SMBHs can originate from the gravitational collapse of Dark Matter. This meeting will address both observational/experimental and theoretical aspects. From an observational point of view, results obtained from very high energy observatories from the ground such as HESS, MAGIC, AUGER and from next generation instruments will be reviewed. Similarly it will be reviewed the observations from Space Observatories in X and Gamma Rays such as Agile, Fermi, Swift, MAXI and NuStar. The complementary observations in Microwave and infrared bands from Planck mission will be presented. Ongoing progress for experimental facilities to look for coincidence with Gravitational waves detectors and Neutrinos detectors will be also reviewed. From a theoretical point of view attention will be given to progress in understanding quantum and classical phenomena related to the physics of Black Holes in a process of extraction of the Black Hole Energy.

From June 23 to June 27 a graduate school, on the same topics of the meeting, will take place in the mountains close to Yerevan. In addition to the IRAP-PhD students, other graduate students are welcome.


LOCAL ORGANIZING COMMITTEE: Baghdaeesan Daniel, Ghazaryan Satenik, Harutyunyan Arus, Harutyunyan Gohor, Harutyunyan Hak (co-chair), Harutyunyan Xaghag, Nersesyan Henrik, Safaryan Narek (co-chair), Sargsyan Aram.

For informations and registration see http://www.icranet.org/