

## ICRANet press release on MG16 meeting

In this difficult time of the pandemic affecting many parts of the planet, we have taken the decision not to lose the opportunity to have the MG16 meeting online. MG16 meetings are held every 3 years since 1979. We are broadcasting the meeting from ICRA in Rome and ICRANet in Pescara. All the lectures will be streamed in ICRANet YouTube channel and made available following the meeting.

This year, in MG16, 1200 participants from 45 nations are present in a weeklong meeting, from July 5 to 10, 2021. The meeting will occur starting in Australasia at 6:30 CEST (Central European Summer Time), continuing in Europe and Africa and concluding in the Americas at 19:30 CEST, which will occur every day starting in Australasia continuing in Europe and Africa and concluding in the Americas with plenary sessions, public lectures, roundtables and 30 parallel sessions.

A set of plenary lectures with some of the most distinguished international scientists, will cover topics ranging from: events in relativistic astrophysics, black holes and the quantum, cosmological models and current tensions in determination of the Hubble constant, to topics on gamma-ray bursts and black holes, to precision tests of general relativity from the ground and space, to massive stars and to the future space missions in relativistic astrophysics. These topics will include new phenomena such as fast radio bursts, observed from the largest radio telescope in China, as well as Gamma ray bursts daily discovered from the largest effort in the history of science from the ground, space and underground.

In addition roundtables and public lectures will be organized including the status of the solar neutrino experiment BOREXINO, precision measurements in cosmology, the most peculiar source 170817A as well as the latest observations of our Galactic center, with the possibility of a gravitational system of dark matter alternative to the classical black hole model in Sgr A. Various Nobel Prize recipients, including Reinhard Genzel, Gerard 't Hooft, Frank Wilczek and Steven Weinberg will animate the presentations.

Particularly significant will be the attribution of the MG16 Awards 2021. The MG16 Institutional Award to the Spektr-RG, the largest X-ray telescopes, comprising the ART-XC hard X-ray telescope from the Russian Space Research Institute IKI, soft X-ray eROSITA telescope from Max Planck Institute for Extraterrestrial Physics, assembled in the space industry, the Lavochkin Association, one of the largest space industries in the world, which is located in the Lagrange point between the Earth and the Moon. These institutional awards will be attributed *“for the creation of the world's best X-ray map of the entire sky, for the discovery of millions of previously unknown accreting supermassive black holes at cosmological redshifts, for the detection of X-rays from tens of thousands of galaxy clusters, filled mainly with dark matter, and for permitting the detailed investigation of the growth of the large-scale structure of the universe during the era of dark energy dominance”*.

MG16 Individual awards will go to

- Demetrios Christodoulou *“For his many lasting contributions to the foundation of mathematical physics including the dynamics of relativistic gravitational fields. Notably for: contributing in 1971, at the age of 19, to derive with Remo Ruffini the mass-energy formula of black holes as a function of their angular momentum, charge and irreducible mass. Christodoulou turned then to the study of partial differential equations and mathematical physics, to which he remained dedicated for the rest of his career. Highlights in this area include the theoretical discovery of the nonlinear memory effect of gravitational waves (Phys. Rev. Letters 1991), the monograph (1993) in collaboration with Sergiu Klainerman on the global nonlinear stability of the Minkowski spacetime, the monograph (2009) on the formation of black holes in pure general relativity by imploding gravitational waves, and the monographs (2007 and 2019) on the formation and further development of shocks in fluids.”*

- Gerard 't Hooft *“for his persistent devotion to the study of the quantum field theory boundary conditions at the black hole horizon”*.
- Tsvi Piran *“for extending Relativistic astrophysics across international frontiers, a true companion in the search for the deeper meaning of Einstein’s great theory”*.
- Steven Weinberg *“for unwavering support for the MG meetings since their inception, a true companion in the search for the deeper meaning of Einstein’s great theory”*.

All this material can be found the following links:

- MG16 website: <http://www.icra.it/mg/mg16>
- MG16 meeting on Indico platform: <https://indico.icranet.org/event/1/>
- MG16 Awards Booklet: [http://www.icra.it/mg/mg16/mg16\\_awards.pdf](http://www.icra.it/mg/mg16/mg16_awards.pdf)
- ICRANet YouTube channel streaming: <https://www.youtube.com/channel/UCU19scWRGvIiKBcN1QXCRO>

Any interested person can be allowed to participate, after registering at the website of the meeting.