«ETTORE MAJORANA» FOUNDATION AND CENTRE FOR SCIENTIFIC CULTURE

INTERNATIONAL SCHOOL OF COSMIC-RAY ASTROPHYSICS
«MAURICE M. SHAPIRO»

23rd Course: "Multi-Messenger Astroparticle Physics" 20 – 28 July 2024

PRESIDENT AND DIRECTOR OF THE CENTRE: PROFESSOR A. ZICHICHI

DIRECTORS OF THE COURSE: PROFESSORS J.R. HÖRANDEL, T. STANEV, R. SPARVOLI - J.P. WEFEL (director emeritus)

Announcing the 23rd course:

Purpose: The era of multi-messenger astrophysics is upon us. Data/observations from many sources must be combined to gain improved understanding of various astrophysical. phenomena, with Supernova 1987A as a historic example. There have been many, recent, exciting discoveries, including gravitational waves, neutrino oscillations, images of black holes, structure in the high energy spectra of cosmic-rays and discovery of ^{60}Fe in cosmic rays. In addition, we have great new data from a variety. of observatories, such as the James Webb Space Telescope, but a full understanding is elusive. Exploring how these advances fit together into a better understanding of our high-energy Universe, and what are the prospects for new discoveries and better. understanding through new technology, are some of the questions that will be explored. during this 23rd biennial course of The International School of Cosmic Ray Astrophysics.

Looking at 'messengers' of gamma rays, neutrinos, charged particles (i.e. cosmic rays), and gravitational waves, lectures by experts in the fields, chosen in the School tradition for their science expertise and communication abilities, will present the history, recent results, and the technology employed. The School provides many opportunities. for informal discussions between participants with students and experts dining together and talking informally, in the relaxed ambiance of Erice. From such interactions, life-long friendships are made, new ideas emerge, and collaborations form. Non-scientific questions, e.g. how do I obtain a position or a grant, can also be explored. The School offers opportunities for the participants to present their own research in order to obtain. feedback and to gain experience presenting to an international audience of kindred spirits.

Topics include: Neutrino Astronomy, Gravitational Wave Astronomy, the highest-energy particles, acceleration and interactions of high-energy radiation, balloon, satellite, and ground based measurements of cosmic rays and gamma rays, propagation of high-energy radiation through the galaxy, and space- or ground-based experiments of the future.

Registration: please use the site https://agenda.astro.ru.nl/event/24/

Secretariat of the Centre:
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Secretariat of the School:
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Financial Matters and Logistics:

The local expense fee of 1350 Euros, payable in advance or upon arrival, covers lodging (in shared rooms), meals, transportation between the Palermo airport and Erice (provided by the Centre) and all course activities. Participants dine at their choice of a number of Erice restaurants. (Beverages, including water, with meals are not included and must be paid for separately.)

Participants needing financial assistance should apply as soon as possible. Partial assistance with local expenses will be offered to students from overseas, i.e., those requiring trans-Atlantic or trans-Pacific travel and students who demonstrate real financial need. Requests for financial assistance should accompany the application.

Qualified applicants who can defray all of their own expenses are usually admitted.

Application / Registration:

Applications from graduate students and post-docs (theory & experiment) should include a brief CV and a statement that travel/transport funds are available. For students, a short note of endorsement by a senior scientist should be provided. Anyone interested in attending should apply as soon as possible since space is limited due to constraints at the Ettore Majorana Centre, and late applicants may have to be turned away.

Senior Participants are encouraged to attend and should contact one of the directors.

Applications should be submitted via the website https://agenda.astro.ru.nl/event/24/. You will need to be prepared to upload your CV/resume, and note of endorsement as PDF files. Response will be via e-mail, with the first selection of attendees in early 2024.

For questions not covered on the websites, please contact
Prof. Dr. Jörg Hörandel – Jorg.Horandel@ru.nl.

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