



MAYORANA

Multi-Aspect Young-ORiented Advanced Neutrino Academy

FIRST CIRCULAR

The Multi-Aspect Young ORiented Advanced Neutrino Academy (MAYORANA) School&Workshop II edition will be held in Modica (Italy) on **June 16th - 25th, 2025**.

This circular will also be available on the event website:

<https://agenda.infn.it/e/mayorana2025>

Event Host and Venue

The MAYORANA School&Workshop is hosted jointly by the Fondazione Grimaldi, the Istituto Nazionale di Fisica Nucleare, and the University of Catania. The scientific sessions will be held downtown, at the historical *Palazzo Grimaldi*, located in Corso Umberto I, 106, Modica, Italy.

Scope and Scientific Program

The main goal of MAYORANA is to establish a collaborative framework that brings together young and senior researchers in the fields of nuclear, particle, and astroparticle neutrino physics. Through this initiative, MAYORANA seeks to foster and deepen discussions on theories and experiments where interdisciplinary aspects play a particularly significant role.

Neutrino physics is increasingly evolving toward a cross-disciplinary approach, but significant progress is still needed. The overlap between different research communities, while challenging, is essential for addressing the complex problems in this field. Sharing diverse experimental and theoretical techniques, as well as exchanging technical expertise and know-how, represents the most effective path toward achieving this ambitious goal. In this context, it is crucial to provide opportunities for young and senior researchers working at the intersections of these disciplines to meet regularly, fostering the exchange of ideas and results.

The proposed School&Workshop format of MAYORANA is designed to combine the lecture-based approach of a School, aimed at students and young researchers, with the advanced discussions of a Workshop, tailored for field experts. This dual structure provides young researchers with a unique opportunity for synergic exposure to both fundamental and advanced knowledge delivered by top-level experts from around the world.

The MAYORANA School&Workshop is a 2-year periodic meeting. The first successful edition was held in Modica in 2023 ([MAYORANA School&Workshop 2023](#)).

The list of the topics to be developed during the School and the Workshop is given below:

- Double beta decay
- Nuclear structure in connection with neutrino physics
- Neutrino nucleus interactions at low and high energy
- Nuclear reactions for weak interactions
- Supernova models and detection of supernovae neutrinos
- Solar models
- Direct and indirect dark matter searches
- Rare beta decay of nuclei for neutrino mass measurement
- Neutrino oscillation and matter effect
- Anomalies in reactor neutrinos
- Ultra-high energy astroparticle neutrinos and the multi-messenger scenario
- New related detection technologies
- Artificial intelligence for DAQ and data analysis

Format

The MAYORANA Workshop will take place from June 16 to 18, 2025 and the School from June 19 to 25, 2025.

The program of the **MAYORANA School** foresees lectures, posters/mini-talks sessions, and discussions.

During the lecture sessions, high-ranked worldwide experts will present each one a three-to four-hour program focused on a specific hot topic of the field addressed to students and young researchers with different scientific backgrounds. Discussion sessions are specifically conceived to allow students and junior scientists a direct and informal interaction with teachers.

Students and young researchers are invited to prepare posters describing their present activities. The posters will be exhibited permanently in dedicated rooms of the palace. During dedicated mini-talk sessions, the participants are also asked to prepare a short presentation summarizing the content of the poster.

Proceedings of the poster and mini-talk contributions will be published, upon peer review process.

The best poster and mini-talk will be awarded with a prize.

Students who need to get a didactic credit for their attendance at the School will be examined and, in case of a positive result, receive a proper certificate.

The format of the **MAYORANA Workshop** consists of plenary sessions hosting invited and contributed talks selected among the abstracts submitted by the participants.

Abstract Submission

The MAYORANA Workshop abstract submission page is available at the event website: <https://agenda.infn.it/e/mayoranaWorkshop2025>.

The deadline for abstract submission is March 31, 2025. The selection of the oral presentations will be notified before April 30, 2025.

Proceedings

Proceedings of the posters/mini-talks of the School and of the talks of the Workshop will be published, after peer review, in an indexed journal.

Social Activities and Excursions

An appealing excursion and social programs will be organized and defined in the forthcoming circulars.

Registration

The registration is open at the following link: <https://agenda.infn.it/e/mayorana2025>.

The registration fee for the School is 200€, and for the Workshop is 200€. Students and young researchers with special motivations can ask for specific support.

The School fee will cover coffee breaks, lunches, School social dinner, excursions, School packages, and proceedings.

The Workshop fee will cover the coffee breaks, Workshop social dinner, Workshop package, and proceedings.

International Advisory Committee

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Local Organizing Committee

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All correspondence and requests for further information concerning the MAYORANA School&Workshop should be sent to the e-mail address: mayorana@dfa.unict.it

We look forward to seeing you in Modica,

The MAYORANA School&Workshop Organizing Committee