



PhyNuBE3

October 06 – 11, 2024

Oléron

Last circular

The third edition of PhyNuBE of the Groupement de Recherche Resanet will take place at the [CNRS center of Oléron \(France\) between October 6 \(arrival\) and October 11 \(departure\)](#). As defined earlier, we propose to address two scientific topics that are nuclear astrophysics and nuclear fission.

The PhyNuBe scientific meetings are intended to gather and educate students and senior scientists about major scientific topics in our field, reinforce links between theory and experiment, and encourage cross-fertilizing activities. The meeting will comprise a series of invited overview talks, oral contributions, and poster presentations. The detailed program can be found in the website: <https://indico.in2p3.fr/event/32007/timetable/#20241006>

The astrophysics part will cover quiescent and explosive burning phases of stars in which nuclear physics plays an essential role, such as massive stars, novae, x-ray bursts, or neutron star mergers. Theoretical aspects of stellar modeling, nuclear reaction rates, and spectroscopy will be covered. Experimentally, results from reaction cross-section measurements of astrophysical relevance involving neutral, charged particles, and neutrinos will be presented and confronted to observations.

Concerning fission, the most relevant experimental programs for measuring fission cross sections, probabilities, fission fragment properties, and the associated emitted particles will be discussed, thus highlighting the related challenges, the solutions provided, and the main results. The advances and challenges in fission theory will also be covered by discussing the latest developments in microscopic dynamical models based on the energy density functional theory and in more phenomenological models. The various talks will also illustrate the importance of the fission process for fundamental nuclear physics, societal applications, and nuclear astrophysics.

A large amount of time will be dedicated to discussions and debates, as well as outdoor activities.

MEALS AND ACCOMMODATIONS

Fees for PhyNuBe3 are 550 euros for a single room and 440 Euros for twin rooms with single occupancy each and full board (all meals included). There is no additional fee. By twin rooms we mean two independent rooms sharing a common bathroom. The fees also comprise the bus shuttle between La Rochelle <-> Oléron CNRS center (see details below).

We managed to support the fees for several students of the school. When supported, students must be accommodated in twin rooms. There may still be money available to support other students on demand, depending on the budget, which has not yet been completely finalized.

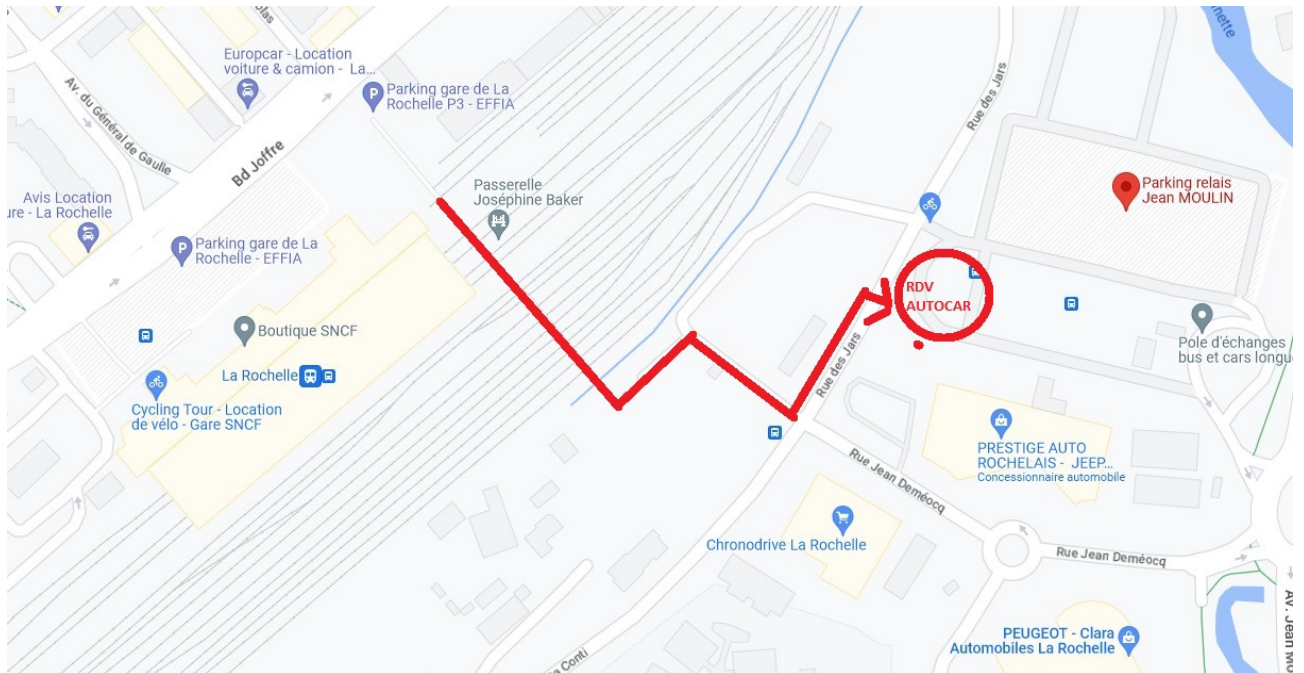
A special dinner will be organized on Wednesday evening.

VENUE

Bus shuttles are planned to be organized from the train station of La Rochelle to the CNRS center of Oléron. Their departure on October 06 and 11th is planned and is synchronized with TGV trains

from Paris on Oct. 06 (**Train: Paris 13h33-La Rochelle 16h19, Bus Shuttle: 16h45**) and La Rochelle on Oct. 11th. (**Bus shuttle: 11h45, Train: La Rochelle 13h47- Paris 16h55**)

The bus will take about 1h30 to reach the Oléron center from the train station of La Rochelle. The meeting point for the bus is located at the opposite side of the **train station of La Rochelle** called **Pôle Jean Moulin, Rue des Jars**. The bus will have a sticker « SPECIAL » on his windshield. A map is included below.



Other transportations could be organized on demand, for instance by taxi (about 190 euros during day). Please ask to the organizers.

We will be asking you soon confirmation of your dates of arrival and departure. Please check these dates on the website and change them when necessary. Note that we do not handle and support extra days of early arrival or late departure from the center. If you wish to stay for a longer period or to arrive before Sunday 6th, please directly contact the CNRS center at the following link: <https://www.caes.cnrs.fr/sejours/la-vieille-perrotine/>. In case you wish to bring an accompanying person or members of your family, please inform us.

POSTER SESSION

A poster session will be organized on Tuesday afternoon. A cocktail will be served during the session. For those presenting a poster, please add a recent picture of you on the top left of your poster so that everyone can recognize you and ask questions on the poster easily, even when the session is finished.

OUTDOOR ACTIVITIES

The center can organize excursions (not free of charge) during free time. This will depend on weather forecast, which are hard to know right now. They offer us the rental of a bike for free to circulate in the center and to visit this charming island.

CONCLUDING REMARKS OF PHYNUBE3

For this 3rd edition of PhyNuBe, we propose that students will be in charge of communicating the conclusions of the lectures they attended on Friday October 11th. This is an opportunity for students



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to feel more involved in the future of these domains of science, and also to encourage exchanges between lecturers and young researchers during the school. A meeting will be organized on Sunday October 06th evening after dinner to discuss on its organization briefly.

In case of emergency or late cancellations, please inform the CNRS center **and** one of us by mail (our secretary marie-laure.abavent@ganil.fr and sorlin@ganil.fr) or if not possible by phone (see below).

The PhyNuBE3 meeting is organized under the umbrella of the GDR Resanet by:

F. Hammache, B. Jurado, D. Lacroix, A. Lemasson, G. Scamps and
O. Sorlin (06 03 47 53 46).



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