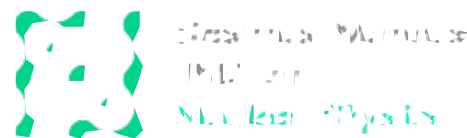


Máster Interuniversitario de Física Nuclear
Erasmus Mundus Joint Master Degree in Nuclear Physics
2023-2024
Universidad Autónoma de Madrid
Many-body Theories in Nuclear Physics.



In person	Monday 11/03/2024	Tuesday 12/03/2024	Wednesday 13/03/2024	Thursday 14/03/2024	Friday 15/03/2024
09:30-11:00	General Overview	Variational Principle. Hartree-Fock Method	Independent Particle Model: Deformation. Collective modes	Hartree-Fock-Bogolyubov	Hartree-Fock-Bogolyubov
11:00-11:30	Break	Break	Break	Break	Break
11:30-13:00	Second Quantization	Shell Model I Pairing	Shell Model II: Vibrations	Shell Model III: Rotations	Hartree-Fock-Bogolyubov
13:00-13:30	tutoring	tutoring	tutoring	tutoring	tutoring

On line	Monday 18/03/2024	Tuesday 19/03/2024	Wednesday 20/03/2024	Thursday 21/03/2024	Friday 22/03/2024
09:30-11:00	Computer session	Computer session	Computer session	Computer session	Computer session
11:00-11:30	Break	Break	Break	Break	Break
11:30-13:00	Computer session	Computer session	Computer session	Computer session	Computer session

*This schedule is tentative and may be subject to slight changes.

Lectures of the first week will be held at the Lecture Room 300. Module 15. Faculty of Science. Universidad Autónoma de Madrid (Department of Theoretical Physics) (http://www.uam.es/ss/Satellite/FisicaTeorica/es/1234888474024/contenidoFinal/Llegar_al_Dpto..htm).

On-line lectures of the second week will be held in the virtual room (to be announced)

Lecturers:

- Alfredo Poves (UAM) (alfredo.poves@uam.es)
- Luis Robledo (UAM) (luis.robledo@uam.es)
- Samuel Giuliani (UAM) (samuel.giuliani@uam.es)
- Tomás Rodríguez (UAM) (tomasrro@uam.es)

Bibliography (textbooks):

- *From Nucleons to Nucleus*. J. Suhonen.
- *The Nuclear Shell Model*. K. Heyde.
- *Fundamentals of Nuclear Models*. D. J. Rowe, J. L. Wood.
- *The nuclear many-body problem*. P. Ring, P. Schuck.