



## The I-LUCE facility of the Laboratori Nazionali del Sud

31 March 2025, Aula D6, via Archirafi 36

Dr. G.A. Pablo Cirrone and Dr. Josè Suarez

The I-LUCE facility of the Laboratori Nazionali del Sud represents a major step forward in high-power laser technology and its applications in fundamental and applied research. Set to begin operations in 2026 at LNS-INFN (Istituto Nazionale di Fisica Nucleare), I-LUCE is based on Ti:Sapphire technology and will feature two high-intensity laser outputs: a >40 TW system operating at 10 Hz and a >320 TW system, with an upgrade path to 500 TW. The facility will offer variable pulse durations, ranging from 23 femtoseconds to tens of picoseconds, enabling a broad range of experimental applications.

I-LUCE is specifically designed for radiation production, generating electrons, ions, neutrons, and gamma rays for studies in warm dense plasma physics and various technological and interdisciplinary applications.

This event will provide an overview of the I-LUCE facility, covering its scientific and technological potential. Dr. G.A. Pablo Cirrone will discuss the facility's perspectives, from fundamental research to practical applications, while Dr. Josè Suarez will focus on the role of high-power lasers in radiation production and their applications.

Participation in the course will count as a total of CFU hours.

**The I-LUCE  
facility of  
the Laboratori  
Nazionali  
del Sud**

**31 mar  
2025**  
15:00 - 17:30

The I-LUCE facility of the Laboratori Nazionali del Sud: perspectives from the basic science to the applications  
Dr. G.A. Pablo Cirrone

**Aula D6 |  
Aula  
Mineralogia**  
Via Archirafi 36 |  
Palermo

High power lasers for radiation production and applications  
Dr. Josè Suarez

La partecipazione al corso sarà valida come monte ore CFU per altre attività formative.

**DiFC** **AISF** **Palermo** **INFN**  
LNS  
Istituto Nazionale di Fisica Nucleare  
Laboratori Nazionali del Sud