

Science Colloquia

**Sala Conferenze, DFA
08/04/2025 h 14:45**



Nuclear astrophysics aims at understanding the cosmic origin of the chemical elements and the energy generation in stars. It constitutes a truly multidisciplinary arena that combines tools, developments and achievements in theoretical astrophysics, observational astronomy, cosmochemistry and nuclear physics: supercomputers have provided astrophysicists with the required computational capabilities to study the evolution of stars in a multidimensional framework; the emergence of high-energy astrophysics with space-borne observatories has opened new windows to observe the Universe, from a novel panchromatic perspective; cosmochemists have isolated tiny pieces of stardust embedded in primitive meteorites, giving clues on the processes operating in stars as well as on the way matter condenses to form solids; and nuclear physicists are measuring reactions near stellar energies, using stable and radioactive ion beams. This talk will provide a comprehensive insight into the nucleosynthesis accompanying stellar explosions, with particular emphasis on some recent advances in the modeling of type Ia supernovae, classical and recurrent novae, and type I X-ray bursts.

I Science Colloquia del DFA "Ettore Majorana", sono appuntamenti con la scienza dedicati a Ricercatrici e Ricercatori, Studentesse e Studenti (della Laurea Magistrale in Physics, del terzo anno della Laurea Triennale in Fisica, e dei Dottorati al DFA) interessati a condividere argomenti ed esperienze di ricerca. I Science Colloquia, coordinati dai Proff. Giuseppe Falci e Livio Lamia, si tengono con cadenza mensile.

Bang! Zoom! Kaboom! Stellar explosions and the cosmic origin of the elements

Jordi José (UPCat)

Uni
ct FISICA E ASTRONOMIA
"ETTORE MAJORANA"

