

## **FACIES AND BASIN ANALYSIS**

6 CFU

### **Educational goals**

To practice the modern techniques of Facies Analysis and diagenetic studies within the general understanding of Sedimentary Basins and Earth History. This aim will be tracked through the critical analysis of selected case histories from the literature and practicing field and laboratory work on the Triassic and Lower Cretaceous carbonates of Campania and Basilicata-Calabria border.

The student will learn how to master his knowledge about the modern techniques of sedimentary geology to understand large scale processes, both for professional application and for research

### **Short syllabus**

Module 1 - How the sedimentary facies are analyzed to recognize a Facies Model/depositional systems: critical reading and oral presentation of selected papers (2 CFU)

Module 2 - Basin evolution and Plate tectonics: how facies analysis contribute to the understanding of the physical processes governing subsidence and how are useful professional application (1 CFU)

Module 3 - The modern techniques of integrated stratigraphy: O-, Sr- and C- isotope stratigraphy and astrochronology: critical reading and oral presentation of selected papers (1 CFU)

Module 3 - Carbonate facies and diagenesis: field work, petrography and geochemistry of Triassic and Lower Cretaceous successions of Campania and Lucania (2 CFU)

### **Pre-requisites**

The fundamentals of physical geology and of sedimentary geology and stratigraphy as acquired in undergraduate courses are necessary to actively participate and learn.