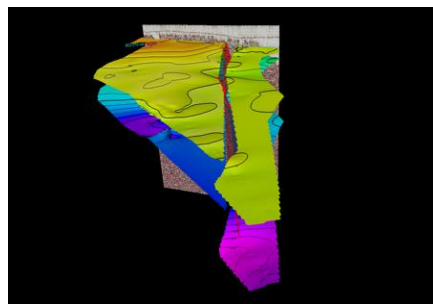


BASIN ANALYSIS

First semester (Oct.- Feb.)

The class introduces the basin analysis methods used in ge-resources exploration and gas storage (CO₂, H₂, etc.) with special emphasis on the integration of stratigraphic, structural, and geophysical data. Surface and subsurface data will be used to characterize carbonate, clastic and mixed depositional systems through time and space.

Prof. Rosanna Maniscalco
rosanna.maniscalco@unict.it

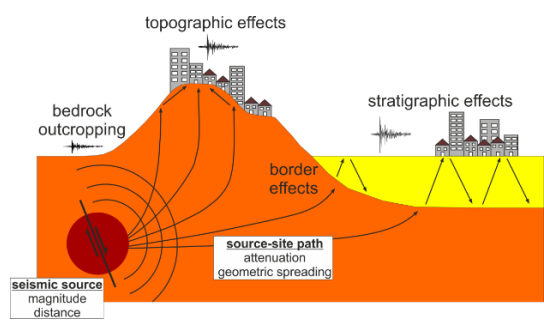


ENGINEERING SEISMOLOGY

First semester (Oct.- Feb.)

In the class is explained how the disciplines of seismology, geology and earthquake engineering contribute to the evaluation of seismic hazard. The course includes the discussion related to ground motion parameters and seismic site effects. During the course recent earthquakes and their impacts are also discussed.

Prof. Francesco Panzera
francesco.panzera@unict.it

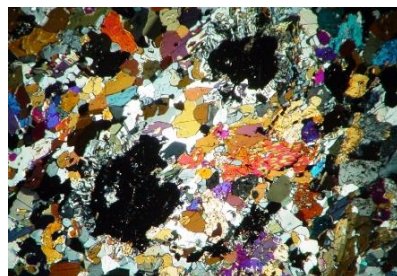


IGNEOUS AND METAMORPHIC PETROLOGY

Second semester (Mar.-Sep.)

The class provides the knowledge and skills necessary to investigate in depth the origin and diversification of igneous and metamorphic rocks in specific geodynamic and tectonic settings, and their role in the growth and evolution of the continental crust. To this purpose, the course introduces a variety of modern and traditional petrologic tools and approaches and one-day field trip.

Prof. Patrizia Fiannacca
patrizia.fiannacca@unict.it

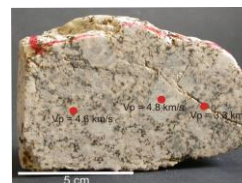


PETROPHYSICS

Second semester (Mar.- Sep.)

The class focuses on the physical properties of minerals and crustal and mantle rocks, with overview on the classical and innovative methodologies for the petrophysical characterization of rocks and geomaterials. Fields of applications are: petrophysical modeling, cultural heritage, environmental and health issues. The class includes practical activities in the laboratory.

Prof. Rosalda Punturo
rosalda.punturo@unict.it

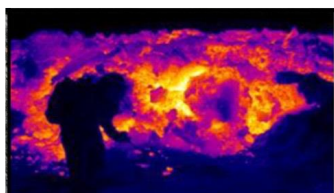


VOLCANIC HAZARD AND MONITORING

First semester (Oct.- Feb.)

The class focuses on the hazard and risk assessment in volcanic areas exposed to dangerous phenomena such as lava flow, tephra fallout, gas exhalation, tsunamis and lahars. The class looks at methods and models in various fields of the modern Volcanology useful to monitor active volcanoes and to identify the eruption precursory signals.

Prof. Gabriele Lanzafame
gabriele.lanzafame@unict.it

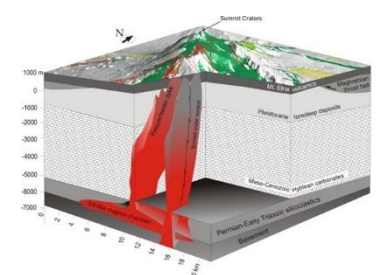
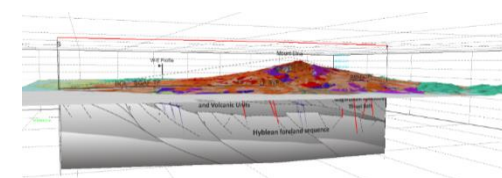


VOLCANO-TECTONICS

First semester (Oct.- Feb.)

The class focuses on the relation between regional tectonic domains and volcanism, magma-chamber rupture due to magmatic excess pressure and hydrofracture injection to form dikes, sills and inclined sheets. Moreover, it provides element to study and to analyse volcanic features, to realize crustal geological profiles and to use the equations to assess the strain and stress fields on volcanoes.

Prof. Giorgio De Guidi
giorgio.deguidi@unict.it

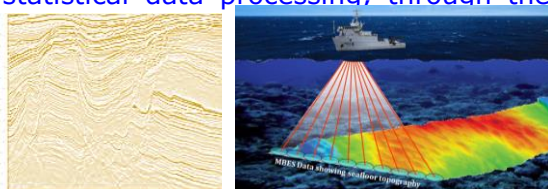


INNOVATIVE METHODS IN MARINE GEOLOGY

First semester (Oct.- Feb.)

Students will acquire in-depth knowledge of specific topics in Marine Geology, such as sediment deposition related to sea level changes, coastal marine environment dynamics, 2D and 3D analysis of offshore seismic profiles and bathymetric and SSS maps, with practical applications and statistical data processing, through the use of specialized software

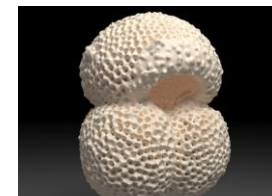
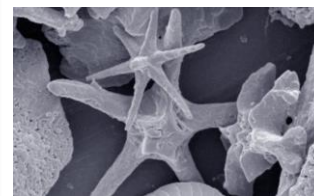
Agata Di Stefano
agata.distefano@unict.it
Salvatore Distefano
salvatore.distefano@unict.it



MICROPALAEONTOLOGICAL STRATIGRAPHY

Second semester (Mar.- Jun.)

The students will acquire the techniques of calcareous microfossils biostratigraphy and paleoenvironmental reconstruction, based on nanofossils, foraminifers and ostracods. They will acquire methods of sample preparation for optical microscopic and SEM analysis. They will learn how to recognize the main nanofossil, foraminifera and ostracod taxa, useful for the stratigraphic subdivision and the paleoenvironmental reconstruction of Neogene/Quaternary time.



Agata Di Stefano (agata.distefano@unict.it)
Rosanna Maniscalco (rosanna.maniscalco@unict.it)
Francesco Sciuto (francesco.sciuto@unict.it)