

1. Research activity (max 1.000 words)

The goal of my research is to reconstruct the geodynamic and thermal evolution of my study area, located in central Italy (from the Central Apennines to the Central Adriatic Sea) using a 2D/3D approach. In addition, a regional seismological study will represent an important part of my project. This will be done by constructing geomechanical models on high seismic hazard structures in the study area (both on-shore and off-shore).

The initial phase of the project will focus on a bibliographic study / data collection to improve the geological knowledge of the area and select the material for the subsequent phases of the work. At the same time, I will to give my contribution to the project “Geodinamica e rischi naturali nell’offshore italiano” (agreement between Sapienza University and Ministrero dell’Industria e dello Sviluppo economico).

My work will be focused on increasing the GIS database of the project collecting public data from the literature (eg. geological maps, seismic sections, well data) for all the Italian offshore. Moreover, this database will also be used for the 2D/3D model construction of the Central Adriatic off-shore.

The second step will be the construction and structural restoration of different 2D models, starting from the Central Apennine area up to the Central Adriatic foreland.

At the same time, field work including sampling will be carried out on organic matter, in order to investigate the thermal maturity of sampled by using the following laboratory analyses:

1. Geochemical / mineralogical analysis (AFTA, TOC, Rock-eval pyrolysis, Smectite-Illite geothermometers)
2. Optical analysis (vitrinite reflectance).

As the last step of the project I will move on to 3D modelling, in which all the data collected and produced by the previous phases will be used to complete the 3D final model where the mechanical fault model will be tested using both the Petrel 3D and Poly3D software (Schlumberger software).

2. Research products

- a) Publications (ISI journals)
- b) Publications (NON ISI journals)
- c) Manuscripts (submitted, in press)
- d) Abstracts

Lipparini, L., D'Ambrosio, A., Trippetta, F., Derks, J. F., & Roblet-Bambridge, V. (2018, June). Oil Sources and Occurrences in Central Adriatic-New Insights and Residual Potential through 1d/2d Basin Modelling. In 80th EAGE Conference and Exhibition2018.

N.B. I dottorandi del primo anno al punto 1 possono inserire il riassunto del progetto di ricerca (max 1.000 parole)