

# **Petrophysical Characterization of Carbonates of Campos Basin in Southeastern Brazil**

**Antonio Carrasquilla<sup>1</sup> and Darcy Ribeiro<sup>1</sup>**

<sup>1</sup>Northern Rio de Janeiro State University

## **ABSTRACT**

In our studies, we analyzed geological, geophysical, and petrophysical data sets (DS) from different wells and in oil fields of Campos Basin - Southeastern Brazil to assess the carbonate reservoirs physical properties. Beside this, we examine the ability of artificial intelligence techniques (AIT) in deriving petrophysical parameters as porosity and permeability of these reservoirs starting from conventional logs. The purpose of these studies is to test our hypothesis that it is possible to achieve a more accurate profile of the distribution of the properties of reservoirs through a qualitative and quantitative analysis of integrated DS and AIT. Our results show that the integration of both DS and AIT to greatly enhance the petrophysical evaluation and indicating that the studies in reference wells can be extended to the rest of the wells of the oil fields, to have a more complete view of the carbonate reservoirs.