# Fractal Analysis of DNA Sequences

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**Abstract**

Fractality is a feature that measures the degree of fracturing and self-similarity of an object at different scales, it provides a value that helps describe the internal structure of the object. Initially, it was used in the analysis of waves and images, but it soon became clear that it was useful in other disciplines, specifically for the study of complex systems. DNA sequence analysis presents great challenges, particularly because of the complexity which is necessary for the algorithms that compare these very large sequences. The fractal and multifractal characterization helps simplify this complexity by facilitating the process of correlation between these structures and biological characteristics. Here we show how to apply this characterization to DNA sequences and the results of these characterization studies on C. Elegans and homo sapiens genomes.