

## Complexity and chaos in Biomedical Applications

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### ABSTRACT

Chaos can be observed in biomedical signals and models. It has been studied that biomedical signals (such as ECG, HRV) are nonlinear in nature with high complexity. There are also associated models describes the dynamics of human heart. We proposed a Variable Order Fractional Muscular Blood Vessel (VOFMBV) system under the influence of different external disturbances. Specifically, those external disturbances include periodic forces, stochastic signal and time delay force. The system is more complex when the noise and non-constant derivative order function is considered. This talk will discuss about chaos and its biomedical applications with possible implementation.