Special Issue

The Role of Nonlinear Heart Rate Variability in Health and Disease

Message from the Guest Editor

The analysis of heart rate variability (HRV) involves non-invasive methods that estimate autonomic function via the evaluation of heart rhythm oscillation. Increased HRV is related to reduced risk of cardiovascular disease, including stroke, hypertension, and all-cause mortality. On the other hand, reduced HRV is linked to numerous disorders. Mathematical approaches applied to HRV analysis help in understanding biological signals in human and animals. The complex behavior of HRV may be evaluated via nonlinear methods, including Shannon entropy, sample entropy, symbolic analysis, and detrended fluctuation analysis. Nonlinear analysis of HRV has been associated with improved health. Moreover, several studies have investigated the association between changes in nonlinear HRV and metabolic, neurologic, respiratory, and gastrointestinal systems. In light of these considerations, this Special Issue aims to invite experts in the area of nonlinear biological signaling to provide analyses of evidence toward evaluating the involvement of nonlinear HRV in health and disease.

Guest Editor

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