



## Circadian Rhythms in Health and Disease

## **Guest Editor**



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## Message from the Guest Editor

Dear Colleagues,

Circadian clocks influence physiological routes and pathophysiological conditions. Intrinsic body clocks exist in almost all organisms, but are particularly complex in humans. The circadian system is a key regulatory factor for several physiological activities and its disorder might have severe consequences on human health. The autonomous circadian timing system is essential for the adjustment to recurring environmental changes as food availability. In healthy subjects, circadian rhythms have a strong influence in the regulation of sleep, metabolism, and different systems (cardiovascular, nervous, and immune). These circadian clocks are also important in the etiology and treatment of various diseases. Modern society way of life with artificial light, might turn biological night into day, producing circadian misalignment. The mismatch of the intrinsic clock time with the environmental daytime, might increase in some situations, as in the case of shift workers or during jetlag. This circadian desynchronisation can be associated with the risk of some diseases and can influence treatment response. Chronotherapeutics might be included as a treatment plan, with the aim of a balanced relationship between the circadian system and its environment. In addition, insights into the circadian regulation of human physiology and its influence in the response to disease might provide opportunities for the discovery of new treatment strategies.

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