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Circadian Clock and Nutrition

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Message from the Guest Editor

Dear Colleagues,

Irregular sleep–wake rhythm and sedentary lifestyle, together with the availability of high caloric food, lead to an imbalance between energy consumption and expenditure. Motor activity, food intake, and exposure to light used to be highly synchronized in the past. Today, this synchronization is disrupted or lacking, which can increase vulnerability to metabolic disorders and lead to obesity. Such diseases often start with a disruption of behavioral and physiological circadian rhythms. Regular food intake is one of the most important non-photic (external) synchronizers of our biological clock. This is possible because the main food oscillator, unlike the main biological clock (SCN), can change its neuronal activity depending on food availability. However, most animals, including humans, consume food while active during the day (diurnal animals) or at night (nocturnal animals). Disorders of this rhythmic food activity can change the activity of the neuronal mechanism of the biological clock.

In this Special Issue, we aim to present the latest results and comments on the relationship between homeostatic and circadian processes.



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Special Issue



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