

## **Circadian Clocks & Metabolism (continuation)**

Initiative: Lichtenberg - Professuren

Bewilligung: 28.08.2016

Laufzeit: 3 Jahre

The thematic scope covers the functional interaction between different circadian tissue clocks in the regulation of metabolic homeostasis, a topic at the border of physiology, endocrinology, and neurobiology, relying on mouse genetics, molecular biology, and life imaging techniques. A tight interaction between circadian clock and metabolic regulation has been described in both human and animal studies. Circadian disruption severely affects metabolic homeostasis and promotes mistimed and overeating and, thus, the development of obesity-associated disorders such as type-2 diabetes and the metabolic syndrome. While the general role of the circadian clock in this context has been widely acknowledged, little is still known about the interaction between different tissue oscillators and the molecular mechanisms underlying clock-metabolism crosstalk - at central and peripheral levels. This project examines the role of circadian clocks in the regulation of metabolic homeostasis using different conditional transgenic mouse models. Further, it explores the impact of peripheral clock regulation on metabolic homeostasis and feeding behavior. Finally, by chrono-therapeutic approaches it will aim at alleviating the impact of metabolic disorders by targeting circadian regulation of metabolism in the brain.

### **Projektbeteiligte**

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