



Universität
Basel

Research Project

Deciphering light-induced metabolism by real-time breath analysis

Project funded by own resources

Project title Deciphering light-induced metabolism by real-time breath analysis

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Organisation / Research unit

Departement Biomedical Engineering / Translational Medicine Breath Research (Sinues)

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Status Completed

Light is known to unlock a cascade of physiological changes in living organisms, including humans. These processes mediate fundamental aspects of our lives as for example awake-sleep patterns. However, how exactly light induces these changes is poorly understood. One of the reasons is the difficulty to analyze such rapid changes of metabolites in body fluids. During this project we will investigate light-induced changes in metabolism. To do so, we will capture fluctuations of metabolites concentrations via a novel breath analysis technique. This method is non-invasive and allows for real-time analysis. Our goal is to understand the mechanisms of light-induced metabolism to ultimately determine optimal conditions of light exposure to improve its therapeutic effects. This therapeutic strategy is especially well-suited to treat circadian disorders in shift workers.

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