Optimization of circadian rhythms and sleep patterns

The abstract of the bachelor thesis

This bachelor thesis summarizes current scientific knowledge on the relationships between circadian rhythms, sleep, and light, and analyzes their mutual interactions influencing the health of organisms, particularly human society. Sleep is among the most crucial determinants of overall health, and the influence of natural or artifficial light can effectively optimize it on one hand, but desynchronize it to the detriment of overall organism functioning on the other. Modern humans are increasingly exposed to artifficial lighting due to spending the majority of their time indoors, leading to a deficiency in natural light globally. This is associated with numerous problems ranging from disruptions in biological rhythms to various other civilization-related illnesses. In summarizing this issue, some recommendations are made for optimizing and personalizing both artificial and natural sunlight to improve sleep, which is a significant biological marker for optimal health.