One of the aging symptoms is visual dysfunction, caused by retina degeneration. The retina of elder people shows many neurodegenerative changes, such as accumulation of protein aggregates, loss of synaptic contacts, chronic inflammation, retina-brain barrier leaking. Circadian disfunction is proven to accelerate the neurodegenerative processes. However, the cellular mechanisms linking the circadian clock to neurodegeneration is still poorly understood. Biological clock is self-sustained but entrainable by environmental conditions, like light. Visual system has its own peripheral clock, which regulates rhythms in the eye. Retina clock disruption may cause several symptoms and enhance aging processes. **One of the main civilization threats of the modern world is artificial light and light pollutions. Additional exposure to light during the night causes clock disruption. Moreover, computers and tablets, which are used mostly during the late evenings, emit blue light which is the wavelength most affecting clock mechanism. These factors may affect biological clock mechanism and in effect cause sleep disorders and enhance neurodegeneration**.

In this project we plan to use a *Drosophila* model to explore the molecular mechanisms by which circadian light input can influence the etiology and progression of the retina neurodegeneration. We will focus on the effect of light and circadian entrainment on cell metabolism, with particular attention on mitochondrial dysfunction. The aim of this project is to show that clock disruption due to light pollutions affects cell metabolism in the eye of older people, and in effect causes retina degeneration.