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**Understanding entrainment of fruit fly *Drosophila melanogaster*  
circadian clocks under natural conditions**

Rhythmic behaviours have traditionally been studied under controlled laboratory conditions. While these studies have served the purpose of providing a broad framework for the understanding of rhythmic regulation of behaviours under cyclic conditions, they do not reveal how organisms keep time in nature. In my talk I shall discuss the results of our studies aimed at examining: (i) if and how changes in natural light affect activity/rest rhythm and (ii) what the functional significance of this rhythmic behavior might be. We found that wild-type strains of fruit flies *Drosophila melanogaster* display morning (M), afternoon (A) and evening (E) peaks of activity under semi-natural conditions, under such conditions when light was blocked completely they exhibited M and E-peaks, on the contrary when they were exposed to constant light, only the E-peak occurred. We found that unlike the A-peak, which requires exposure to bright light in the afternoon, light information is dispensable for the M and E-peaks. Through visual examination of behaviours we concluded that the M-peak is associated with courtship-related locomotor activity and the A-peak is due to an artifact of the experimental protocol and largely circadian clock-independent.