

## Synchronisation of biological oscillators in reproductive biology

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*Abstract:* Sex hormones influence many physiological processes in organism including neuronal excitability and behaviour. Secretion and concentrations of sex hormones in both genders show circadian rhythm as well as seasonal variations. Secretion of sex hormones together with secretion of FSH, LH and GRH can be considered as a complex dynamical system with oscillatory character. The aim of this study is to model dynamics of secretion of male sex hormones and FSH, LH and GRH as a complex oscillator. This complex oscillator consists of several coupled subsystems. Conditions for synchronisation between units of this complex oscillator is analysed and discussed. Synchronisation is important for keeping the homeostasis of an individual. Key words: sex hormones, complex oscillator, synchronisation  
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