**Abstract**

This thesis explores the intricate role of nuclear receptors in the circadian regulation of metabolic functions, a critical aspect of maintaining hemeostasis in living organisms.

Circadian rhytms, governed by internal biological clocks, which are present in nearly all forms of life, play a fundamental role in coordinating the timing of physiological processes, including metabolism, sleep and hormone production. Nuclear receptors, which are protein factors influencing gene expression, mediate the translation of circadian signals into cellular responses, thereby enabling temporally precise regulation of gene expression.

Through a complex literature review, this thesis elucidates how nuclear receptors interact with circadian machinery to modulate metabolic pathways.

**Keywords:** nuclear receptors, circadian, SCN, metabolism