Changes in arousal are at the core of neuropsychiatric disease, including depression and other mood disorders. To develop new treatments for depression it is essential to unravel the neuronal network underlying mood regulation. Neurons that produce the Hcrt neurotransmitter are known to be critically associated with arousal, but their role in mood and depression remains unclear. Under the Stanford/France collaborative project Dr de Lecea, whose laboratory discovered the Hcrt system and pioneered the application of optogenetic methods in freely moving animals will act as host. Dr Fabre will provide her expertise in the neuronal underpinnings of mood disorders to determine whether the optogenetic stimulation of neurotransmitter Hypocretin (Hcrt) affects motivation and resilience to stress in mice. The outcome of this collaboration may have profound implications for understanding how hypocretin can contribute to human pathologies such as major depressive disorder.