We uncover the etiology and pathophysiology of human sleep disorders, using various animal models. Our research interests include hypersomnia with various etiologies (primary hypersomnia and symptomatic hypersomnia), insomnia, and circadian rhythm disorders. Although some hypersomnias such as narcolepsy-cataplexy and symptomatic narcolepsy/hypersomnia are associated with orexin/hypocretin deficiency, this mechanism cannot explain all hypersomnias. These include hypersomnias associated with Parkinson’s disease and myotonic dystrophy, and other mechanisms unrelated to orexin are likely involved. Similarly, insomnia is a heterogeneous disease condition, and no primary underlying mechanism has been demonstrated. I would like to introduce recent results obtained in our lab and to extend discussions.