Alcohol use disorders are associated with dramatic disruptions in sleep and other circadian biological rhythms. In turn, chronobiological disruption appears to be a risk factor for alcoholic relapse and for excessive drinking in non-dependent populations. This presentation will review evidence for interactions between alcohol and the circadian timing system in experimental animal models. Studies from my lab and others indicate that alcohol administration alters fundamental properties of the circadian pacemaker, while genetic and environmental perturbation of the circadian system modulates voluntary alcohol intake. Together, these data support the hypothesis that bidirectional interactions between alcohol and the circadian timing system create a vicious-cycle that contributes to alcohol abuse and addiction.