



PROGRESS IN NEUROSCIENCE PINS



Seminar Series of the
Brain & Mind Research Institute
Weill Cornell Medical College (WCMC)
&

The Graduate Program in Neuroscience of
WCMC and Sloan Kettering Institute

Thursday, 11/2/17, 4 PM, coffee at 3:45 PM
Weill Auditorium

“Neural Circuits Controlling Sleep”

Yang Dan, Ph.D., Paul Licht Distinguished Professor, HHMI Investigator

Abstract

Sleep is a fundamental biological process observed widely in the animal kingdom, and its disruption has profound impacts on human health. However, the neural circuits generating sleep remain poorly understood. Using powerful techniques developed over the past decade, including optogenetics, cell-type-specific imaging, virus-mediated circuit tracing, and gene expression profiling, our research aims at identifying the key neurons in the sleep control circuits, mapping of their synaptic connections, and identifying potential intervention targets for improving sleep.



Recent Relevant Publications:

1. Weber, F., Chung, S., Beier, K.T., Xu, M., Luo, L., Dan, Y. (2015). Control of REM sleep by ventral medulla GABAergic neurons. *Nature* 526, 435-438.
2. Xu, M., Chung, S., Zhang, S., Zhong, P., Ma, C., Chang, W.-C., Weissbourd, B., Sakai, N., Luo, L., Nishino, S., and Dan, Y. (2015). Basal forebrain circuit for sleep-wake control. *Nat. Neurosci.* 18, 1641-1647.
3. Chung, S., Weber, F., Zhong, P., Tan, C.L., Nguyen, T.N., Beier, K.T., Hörmann, N., Chang, W.C., Zhang, Z., Do, J.P., Yao, S., Krashes, M.J., Tasic, B., CeWn, A., Zeng, H., Knight, Z.A., Luo, L., Dan, Y. (2017). Identification of preoptic sleep neurons using retrograde labelling and gene profiling. *Nature* 545, 477-481.



**Weill Cornell
Medicine**

