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, 3/30/17, 4 PM, coffee at 3:45 PM

Weill Auditorium

"Dissecting the Neural Circuits that Mediate Motivated Behaviors"

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Abstract

In order to survive and effectively navigate an ever-changing and unpredictable environment, organisms must readily adapt their behavior to seek out needed resources, while simultaneously avoiding life-threatening situations. These opposing processes are controlled by neural circuitry that is readily engaged by both environmental and physiological factors to promote behavioral output. The work of my lab studies the precise neural circuits that control both reward and aversive-related behavioral responses. By utilizing optogenetic and other circuit mapping tools, we aim to delineate the precise functional synaptic connections between molecularly distinct neuronal populations that are critical for the generation of these critical behavioral states. A holistic understanding of the interconnected neural circuit elements that mediate diverse motivational behaviors will likely provide important insight into a variety of complex neurological and neuropsychiatric illnesses such as addiction, anxiety, depression, eating disorders, and autism.

Recent Relevant Publications:

1. McHenry JA, Otis JM, Rossi MA, Robinson JE, Kosyk O, Miller NW, McEllicgott ZA, Budygin EA, Rubinow DR, Stuber GD (2017) Hormonal gain control of a medial preoptic area social reward circuit. Nature Neuroscience. 20(3):449-458. PMID: 28135243.
2. Otis JM, Namboodiri VMK, Matan AM, Voets ES, Mohorn EP, Kosyk O, McHenry JA, Robinson JE, Resendez SL, Rossi MA, Stuber GD (2017) Prefrontal cortex output circuits guide reward seeking through divergent cue encoding. Nature. doi: 10.1038/nature21376. PMID: 28225752.
3. Jennings JH*, Ung RL*, Resendez SL, Stamatakis AM, Taylor JG, Huang J, Veleta K, Kantak PA, Aita M, Shilling-Scrivo K, Ramakrishnan C, Deisseroth K, Otte S, Stuber GD (2015) Visualizing hypothalamic network dynamics for appetitive and consummatory behaviors. Cell. 160:516-27 PMID: 25635459.

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