1051-00-62   **Kelly J Suter*** (`kelly.suter@utsa.edu`), Department of Biology, 1 UTSA Circle, San Antonio, TX 78249. *Computational approaches to studying hypothalamic gonadotropin releasing-hormone (GnRH) neurons.*

The gonadotropin releasing-hormone (GnRH) neurons of the hypothalamus integrate the multiple internal and external cues that regulate sexual reproduction. Their episodic release of GnRH provides the stimulus for pituitary gonadotropin secretion and the subsequent function of the gonads. We will discuss our computational models of GnRH neurons which in tandem with electrophysiological experiments using dynamic current clamping, demonstrate that somata, proximal dendrites and distal dendrites of GnRH neurons create functional microdomains within individual GnRH neurons. (Received August 11, 2009)