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Sayanti Banerjee and **Janet Best*** (jbest@math.ohio-state.edu), Dept of Mathematics, 100 Math Tower, 231 West 18th Ave, Columbus, OH 43210, and **Jung Eun Kim**. *Mixed Mode Oscillations in a Neuroendocrine Cell Model*.

Mixed mode oscillations (MMOs) are patterns involving an inter-mixing of large- and small-amplitude oscillations. For neurons, MMOs are typically mixtures of spikes and subthreshold oscillations. MMOs have been observed both in experimental data and in mathematical neuron models and have recently been a very active area of mathematical research. In this talk, I will discuss MMOs arising in a model for Gonadotropin-releasing hormone neurons. I will describe the use of dynamical systems theory to understand the mechanisms underlying MMOs in the model and how these compare to known mechanisms for generating MMOs. I will also explore possible physiological functions of MMOs. (Received February 16, 2010)