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**Janet Best\*** (jbest@math.ohio-state.edu), 100 Math Tower, 231 W. 18th Ave, Columbus, OH 43065, and **Michael Reed** and **H Frederik Nijhout**. *Mathematical Models of Neurochemistry: Implications for Movement*.

Many neurons change brain function by projecting changes in biochemistry to distant brain regions. Understanding how these biochemical networks interact with electrophysiological networks to produce brain function both in health and disease poses new challenges for mathematical neuroscience. In this talk, recent mathematical models will be presented showing how voluntary and involuntary movements may be modulated by such networks, and some of the mathematical challenges will be discussed. (Received September 23, 2014)