

1035-92-1571 **Marshall Hampton*** (mhampton@d.umn.edu), 1117 University Dr., UMD, Dept. Math and Stats,
SCC 140, Duluth, MN 55812, and **Matthew T Andrews**. *Modeling Mammalian Hibernation*.

We will present a model of the dynamics of the body temperature of a hibernating mammal. Our model provides a good match to experimental data, showing the interruption of low-temperature torpor bouts with periodic interbout arousals. We focus on the molecules that participate in the initiation, regulation and maintenance of the hibernating state. This model can be used to describe the role of regulatory molecules, signal transducers, downstream target enzymes, structural proteins or metabolites. Because many of the biochemical mechanisms are unknown, this is a preliminary and largely phenomenological model that we hope will inspire further investigation. (Received September 20, 2007)