1152-92-36 **Steven M Baer*** (steven.baer@asu.edu), School of Mathematical & Statistical Sciences, Arizona State University, Tempe, AZ 85287-1804. *Spatio-Temporal Dynamics of Membrane Accommodation in Nerves.*

The underlying phenomenon responsible for membrane accommodation, as well as elliptic bursting activity in rodent trigeminal interneurons is called delayed Hopf bifurcation (DHB). In DHB problems a bifurcation or control parameter varies naturally with time or is varied by an experimenter. Of particular interest is when this dynamic parameter ramps slowly through a Hopf bifurcation that is predicted from a static bifurcation analysis. In DHB the transition to large amplitude sustained oscillations may not occur until the parameter passes considerably beyond the value predicted from a static bifurcation analysis (delay effect), and that the delay to onset is dependent on the initial value of the slow parameter (memory effect). Following a brief introduction we show that for nerve cable models, where the reactive (excitable) and diffusive portions of the nerve are weakly coupled, the onset of large amplitude oscillations in response to a slow current ramp can occur at a significant spatial distance away from the input site (spatial delay effect), and the onset location depends on the initial value of the current (spatial memory effect). We conclude the talk showing how persistent fluctuations (deterministic or stochastic) can influence delay/memory effects for nonlinear ramps. (Received August 08, 2019)