

1096-VL-2311      **Evan C Cresswell-Clay\*** (ecc15@pitt.edu), 404 Biddle Ave., Pittsburgh, PA 15221, and **G Bard Ermentrout**. *Modeling the Cutaneous Rabbit Effect*.

Perception can be viewed as a competition between stimuli, each stimulated sense vying for its place in the final presentation to its owner. When these senses don't agree you have an illusion. This project models the cutaneous rabbit effect whereby a subject is tapped multiple times in two or more locations on the forearm and perceives false motion (as if a rabbit were hopping across your arm). We attempt to simulate the data on this illusion used by Daniel Goldreich with a mechanistic model based on neural competition. We develop a model consisting of coupled systems of ordinary differential equations representing 20 points partitioned equally along the forearm as they compete for their place in your perception. With the model, we are able to explain much of the perceptual data. (Received September 17, 2013)