1035-62-666 **Olcay Akman** (oakman@ilstu.edu), Department of Mathematics, Box 4520, Normal, IL 61790, and **Andrew L Thurman*** (althurm@ilstu.edu), Department of Mathematics, Campus Box 4520, Normal, IL 61790. *An Application of Kohonen Self-Organizing Feature Maps in Ecology.*

Kohonen self-organizing feature maps (SOFM) are special types of neural networks commonly implemented as a clustering tool. They are especially useful in massive data analysis. These maps are two-dimensional projections of n-dimensional data that self-organizes according to similarities between the data vectors. Specifically, the maps can be used to discriminate between groups within multivariate data. We present an application of Kohonen maps in the context of an ecological study, in which entomologists collected data on a species of grasshopper (Romalea microptera) native to south Florida. We create a map that organizes the data based on body size characteristics and discriminate between different groups of grasshoppers with respect to sex, age, and location. (Received September 13, 2007)