1086-VG-420   **Aaron Rodriguez*** (rodr45@iastate.edu), **Cheri Shakiban** (cshakiban@stthomas.edu) and **Jack Stangl** (stan2984@stthomas.edu). *Characterization of Melanoma and Moles using Fractal Dimension.*

This research focuses on the mathematical detection and analysis of border irregularity in skin lesions for the purpose of identifying malignant melanoma amongst benign moles. In particular, we utilize the method of Fractal Dimension, based on the box counting method. The border irregularity of known malignant melanoma samples are compared to the border irregularity of known nevi, or common moles. We propose that melanoma possess distinguishable border differences from nevi, often undetectable to the human eye. We utilize this mathematical method to detect and quantize this difference to aid in diagnosis. (Received August 30, 2012)